

**WILLIS HAZARD**  
**St. Jacques v. OCF**

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SUPERIOR COURT OF THE STATE OF CALIFORNIA  
FOR THE COUNTY OF LOS ANGELES

DOROTHY ST. JACQUE, )  
Plaintiff, )  
 )  
vs. )  
 )  
JOHNS-MANVILLE CORP., etc., )  
et al., )  
Defendants. )  
 )  
AND ALL RELATED CASES )

RECEIVED  
MAY 6 1981  
GREENE, O'REILLY  
AGNEW & BRIDGES  
CASE NO. C 137-405

DEPOSITION OF WALTER HAZARD,  
Taken on behalf of the Plaintiffs  
at Sheritan Hotel, Toledo,  
Ohio, on March 27, 1981,  
commencing at 9:30 A.M., pursuant  
to Supoenae.

Reported By: Jerry Lefler, CSR, SCO  
Certificate No: 2856

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Friday, March 27, 1981, Toledo, Ohio

9:30 A.M.

-000-

WALTER HAZARD,

having been duly sworn by the Reporter  
was examined and testified as follows:

EXAMINATION

BY MR. ~~SEDERFELD~~:

Q. Would you state your full name for the record,  
please?

A. Willis Gilpen Hazard.

Q. ~~Mr. Hazard~~, may we have your home address,  
please?

A. 3609 Maple Way Drive, Toledo.

Q. What is the home telephone number, sir?

A. 382-7348.

Q. Do you have any present plans of moving from  
that address?

A. No, sir.

Q. Can you give us the name of someone in the  
Toledo area, a friend or a family member who would know  
your whereabouts if you're not at home?

A. I have a son living just outside of Toledo.

Q. Your son's name?

A. David C. Hazard.

to 13

1 Q. Do you know your son's address?

2 A. West Broadway, Maumee 700 block. I can't think  
3 of the street number.

4 Q. Is your son employed at the present time?

5 A. Yes.

6 Q. By whom, sir?

7 A. Owens-Corning.

8 Q. Mr. Hazard, you've had your deposition taken, I  
9 believe on one previous occasion.

10 A. Yes.

11 Q. In connection with the asbestos cases, you  
12 understand that?

13 A. Yes, sir.

14 Q. Just so that we're all clear, let me give you  
15 some preliminary remarks about this deposition. We've  
16 already been introduced.

17 The purpose for our being here is that we're here to  
18 take your deposition in connection with the Los Angeles  
19 area asbestos cases that are pending there. You  
20 understand that?

21 A. Yes.

22 Q. The deposition will be essentially a question  
23 and answer session under oath. Everything that is said  
24 here today is taken down by the court reporter who is  
25 seated between us. At the conclusion of the deposition  
26 he will cause his notes to be transcribed into booklet  
27 form. Have you seen the booklet of your previous  
28 deposition?

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1 A. Yes, sir.

2 Q. Have you had a chance to review it and make any  
3 changes that were necessary?

4 A. Yes.

5 Q. Do you recall making any changes that were  
6 significant rather than just spelling errors or  
7 something  
8 like that?

9 A. Well, I remember one, the word silicate was  
10 used when it should be silica, and one or two like that.  
11 But essentially the others were mistakes.

12 Q. Mistakes in --

13 A. Grammar, typing; yes, sir.

14 Q. Other than those, your testimony at that time  
15 was substantially correct?

16 A. Yes.

17 Q. In any event, at the conclusion of this  
18 deposition you'll get a booklet just like the booklet  
19 you've already seen and you'll be asked to read it and  
20 sign it. At that time you'll be permitted to make any  
21 changes that you wish in the testimony that you give;  
22 however, I should caution you that if you make changes  
23 in your testimony that might prove embarrassing to  
24 yourself or your former employees. You understand that?

25 A. Yes.

26 Q. The reason for that is at the time of trial it  
27 might be suggested that your testimony here today wasn't  
28 as honest or as forthright or as complete as it might

1 have been because you made a change. Do you understand?

2 A. I see.

3 Q. I'll try to help you avoid making changes by  
4 asking you questions which are clear and understandable.  
5 If I ask you a question which is unclear, please tell me  
6 so and I'll rephrase it, all right?

7 A. Yes.

8 Q. The oath you've just taken is the same oath you  
9 would take as if you were testifying in a court of law, you  
10 understand that?

11 A. Yes.

12 Q. Even though we're gathered in fairly informal  
13 surroundings, the testimony you give today has the same  
14 force and effect as if a judge and jury were present. You  
15 understand that?

16 A. Yes.

17 Q. Do you have any questions about the deposition  
18 procedure before we go any further?

19 A. No, I believe not.

20 Q. You've had --

21 MR. CALLAHAN: We're working under the same type of  
22 protective order, the same terms as the protective order in  
23 the Ames case; is that correct?

24 MR. SILBERFELD: Yes. I think somebody was concerned  
25 about any objections being preserved on behalf of all  
26 counsel when one counsel makes them, and that's fine with  
27 me. Anything else preliminary? Okay.

28 Q. Mr. Ames -- Mr. Hazard, in preparation for

1 this deposition today, have you reviewed any documents  
2 other than the stack of materials I just presented to you  
3 and your counsel this morning?

4 A. I think I have. I don't think everything is  
5 there. You mean reviewed in preparation for this  
6 deposition?

7 Q. Yes.

8 A. I don't remember whether I reviewed anything  
9 besides that or not.

10 Q. In the last few days, have you read anything or  
11 looked at anything in preparation for this deposition?

12 A. No. There is one thing, though, that comes to  
13 mind.

14 Q. What is that, sir?

15 A. The results of the tests were published in a  
16 technical journal, and I don't think that's in there.

17 Q. You mean Dr. Schepers's article?

18 A. Yeah.

19 MR. CALLAHAN: Did you read that within the last  
20 couple of days?

21 THE WITNESS: No.

22 MR. CALLAHAN: Okay. Yes, it is there. That's it.

23 For Thank you.

24 Q. BY MR. SILBERFELD: Other than your counsel,  
25 Mr. Callahan, have you spoken to anybody in preparation for  
26 this deposition today?

27 A. Mr. Berry and Mr. Callahan are the only ones.

28 Q. Mr. Berry is the gentleman seated here at



1 the table?

2 A. Yes.

3 Q. When did you meet with Mr. Berry?

4 A. The day before yesterday.

5 Q. How long was the meeting?

6 A. ~~Oh, it was a couple hours, three hours maybe.~~

7 Q. Can you outline for us, Mr. Hazard, your  
8 educational background?

9 A. I graduated at Harvard College -- I  
10 graduated at Harvard College in 1929. I received a  
11 Master's Degree in 1930. How far do you want me to go?  
12 You talking about my formal education or my whole lifetime?

13 Q. Let's start with formal education, then we'll  
14 go to on the job training and seminars and those kinds of  
15 things?

16 A. Okay. Well, the formal education is what I  
17 just said. A degree from Harvard College in 1929, and  
18 a Master's Degree from Harvard in 1930.

19 Q. In what field of study was your Master's Degree,  
20 sir?

21 A. Physics.

22 Q. After your Master's Degree, did you take any  
23 educational training beyond the Master's Degree?

24 A. Not with that type, no.

25 Q. What sort of educational training of any kind  
26 did you get after that?

27 A. I attended seminars in the field of industrial  
28 hygiene, and attended technical meetings in industrial

1 hygiene. And that was about it,

2 Q. Do you know who sponsored some or all of the  
3 seminars that you attended on the subject of industrial  
4 hygiene?

5 A. Some were sponsored by the Harvard  
6 School of public health, by the University of  
7 Pittsburgh Graduate School, and by some other  
8 educational institutions. Some of the seminars were  
9 sponsored by a technical society, namely the American  
10 Industrial Hygiene Association, the American Public Health  
11 Association, and the other such scientific organizations or  
12 associations.

13 ~~Q. All right. In the course of your employment,~~  
14 did you ever receive any on the job training in the subject  
15 of industrial hygiene?

16 A. Well, not by my employer, but I would consider  
17 these to be on the job training also.

18 Q. So these, referring to the seminars and the  
19 technical meetings, occurred while you were employed in  
20 your lifetime?

21 A. Yes, that's right. This is not the complete  
22 list but this is characteristic of the organizations.

23 Q. Would it be a correct statement, Mr. Hazard,  
24 that the seminars and technical meetings that you attended  
25 throughout your life have had to do with industrial hygiene  
26 primarily?

27 A. Yes.

28 Q. Now, are you employed at the present time?

1 A. No, sir.

2 Q. Are you working in any capacity, either on a  
3 part-time basis or on a consulting basis with anyone?

4 A. I'm a consultant in the field of industrial  
5 hygiene, not connected all the time with the same person or  
6 company, but miscellaneous.

7 Q. At the present time, what percentage of your  
8 time is devoted to these consulting services?

9 ~~2760~~ A. Oh, maybe 10 percent.

10 Q. How many people or companies or governmental  
11 entities do you consult for at the present time?

12 A. I don't consult any -- for anybody directly,  
13 but as a job comes up, I hope to get it.

14 Q. Well, in the last six months, can you give us  
15 the names of some of the people that you've consulted for?

16 A. Well, I got to think. I can't think of the  
17 names of the companies.

18 ~~57724~~ Q. Have you done any consulting work for your former  
19 employer, Owens-Illinois?

20 ~~57720~~ A. No, sir.

21 Q. Have you been active since the time of your  
22 retirement on behalf of Owens-Illinois in connection  
23 with the asbestos litigation?

24 A. No, I haven't been active on behalf of  
25 Owens-Illinois. I've been asked to give this deposition,  
26 and one in February. But it was not Owens-Illinois  
27 that asked me.

28 Q. Who was it that asked you?

1 A. Mr. Callahan directly.

2 Q. ~~I see.~~

3 Would you outline for us in general terms your  
4 employment background?

5 A. I came to work for Owens-Illinois in 1934 as  
6 a member of their personnel division in Toledo. The work  
7 there was in connection with health conditions in their  
8 manufacturing plants. Particularly as related to the  
9 measurement and control of dust, fumes, gasses, vapors,  
10 excessive heat, and excessive noise, and such industrial  
11 hygiene matters. And the -- well, I'll keep on going.

12 In 1942 through 1946 I was away from Owens-Illinois and  
13 was in the United States Public Health Service, and was  
14 assigned to the state Health Department in New Jersey. New  
15 Jersey had many, many war plants in that era, and my job was  
16 to visit these plants and examine their industrial hygiene  
17 conditions.

18 In 1946 I returned to Owens-Illinois and remained  
19 there until 1972, when I retired.

20 Q. I think you may have misspoken. You said '42.

21 A. Oh. '72. Sorry. Thank you.

22 Q. All right.

23 Now, between 1946 and 1972, was your employment with  
24 Owens-Illinois interrupted for any period of time? Or  
25 was it continuous?

26 A. It was continuous.

27 Q. During that time, what job titles did you hold?  
28 '46 to '72.

1 A. I was their industrial hygienist. And I was  
2 operating in the personnel division. Or later the  
3 industrial relations division.

4 ~~Q. Who did you report to, Mr. Hazard, up the line~~  
5 in an organizational sense as the industrial hygienist?

6 A. Well, when I came back I reported to the  
7 director of industrial relations, whose name was  
8 Ollander, M. M. Ollander. And he retired sometime in the  
9 1960's, I guess it was, late 1950's.

10 Q. What was Mr. Ollander's title?

11 A. director of industrial relations. And he  
12 was succeeded by a series of men, some of whose names I've  
13 forgotten. But the longest stretch of my career was under  
14 M. M. Ollander.

15 MR. SIMON: Is that Milton, sir?

16 THE WITNESS: Yes.

17 Q. BY MR. SILBERFELD: Mr. Hazard, when you were  
18 with Owens-Illinois, before your stint with the United  
19 States Public Health Service from '42 to '46, who did  
20 you report to up the line?

21 A. Forty-two to '46?

22 Q. Before --

23 A. Before '42?

24 Q. Before you went to the Public Health  
25 Service and you were with the company, who did you report  
26 to?

27 A. It was Milt Ollander in that era too.

28 Q. It was?

1 A. Yes. It was not in the very beginning. He  
2 didn't come with the company until the mid thirties, I  
3 guess. And prior to that I've forgotten who I reported to.  
4 But it was in the personnel or industrial relations area.

5 Q. From '46 to '72, do you have that period in time  
6 in mind?

7 A. Un-huh.

8 Q. Were you the only industrial hygienist that  
9 Owens-Illinois had?

10 A. Yes.

11 Q. Did you have a staff working under you, sir, at  
12 any time during that period?

13 A. I used part of the staff of our Technical  
14 Center. I used some of the technical people in our  
15 Workers' Compensation insurance carrier, which had a good  
16 ~~industrial hygiene program. That's all I can think of.~~

17 Q. Could you describe this Technical Center  
18 within the company?

19 A. Yes.

20 Q. What did that consist of?

21 A. It was concerned with all kinds of aspects of  
22 manufacture of their products, which originally and  
23 basically were glass products.

24 A wide range of technical activity.

25 Q. What particular scientific disciplines were  
26 employed in the Technical Center?

27 A. Well, they had physicists and chemists and  
28 engineers primarily.

1 Q. Any medically trained people?

2 A. Not in the technical center. But there was a  
3 company medical director with whom I worked closely, too.

4 Q. ~~Who was that from '46 to '72?~~

5 A. Well, it will come to me. I can't think of his  
6 name right now.

7 MR. SIMON: Shook?

8 THE WITNESS: Shook. Yeah. Charlie Shook.

9 Q. BY MR. SILBERFELD: Now, you mentioned also  
10 that you used the services of the technical people at the  
11 Workers' Comp. carrier.

12 A. Yeah.

13 Q. Who was the Workers' Comp. carrier for  
14 Owens-Illinois during those years?

15 A. It was Aetna Surety and Casualty Company in  
16 Hartford.

17 Q. And where was the technical staff located that  
18 you drew from for assistance?

19 A. It was in Hartford.

20 Q. Were there particular contacts at Aetna that  
21 you had dealings with in connection with the technical side  
22 of your work?

23 A. Well, the first part of the period it was a man  
24 named Fred Sehl, S-e-h-l, and he was succeeded by John  
25 Robinson, who -- I guess he was there all the time between  
26 Fred Sehl's departure and my retirement. John Robinson  
has since retired himself.

Q. And I ask you the same question that I asked

1 you about the Technical Center of Owens-Illinois.

2 What scientific disciplines did Aetna have available to  
3 you that you could draw on for assistance or hope?

4 A. They had chemists, engineers, some in the area  
5 of physics, because they had quite an elaborate X-ray setup,  
6 and they had medical doctors.

7 Q. Did they have industrial hygienists on their  
8 staff as well?

9 ~~A. Yes.~~

10 Q. Mr. Hazard, as the industrial hygienist for  
11 Owens-Illinois, can you tell us what your job duties  
12 were? Were they basically the same as you've described  
13 earlier?

14 A. Yes, they were.

15 Q. During the course of your employment with the  
16 company, did you at any time assume any additional duties?

17 A. I don't remember any.

18 Q. During the course of your employment with  
19 Owens-Illinois, did you become a member of any  
20 professional associations or societies?

21 A. Yes.

22 Q. Can you tell us which ones?

23 A. The American Industrial Hygiene Association.  
24 I was a director and later president of it. The  
25 American Public Health Association, which had a section on  
26 industrial hygiene. The American Society of  
27 Heating and Ventilating Engineers, which was active in the  
28 work of plant ventilation and control of dust exposure.

TO 3



1 MR. SIMON: Could you repeat the name of the  
2 organization?

3 THE WITNESS: The American Society of Heating and  
4 Ventilating Engineers.

5 MR. SIMON: Thank you, sir.

6 THE WITNESS: During the -- wait a minute. I was  
7 active in the American Standards Association, which drew up  
8 standards relating to all sorts of scientific work,  
9 including ventilation and measurement of various  
10 contaminants such as dusts.

11 Q. BY MR. SILBERFELD: Any others that you recall,  
12 sir?

13 A. I don't recall any others.

14 Q. In your last deposition the Industrial  
15 Hygiene Foundation was mentioned.

16 A. Yeah, that's right.

17 Q. Were you a member of that one as well?

18 A. That was an organization, that is an  
19 organization that companies belong to. And I represented  
20 Owens-Illinois at some of their meetings. I did not  
21 hold individual membership in it.

22 Q. Were there any other corporate memberships  
23 which Owens-Illinois held where you were the  
24 representative attendee?

25 A. Owens-Illinois had a membership in the  
26 National Safety Council and in the industrial hygiene  
27 activities of that organization I represented the  
28 corporation.

1 Q. Mr. Hazard, did the American Industrial  
2 Hygiene Association publish any regular magazine or  
3 periodical or journal?

4 A. Yes, they had a journal which in the early days  
5 came out quarterly and then bi-monthly and then finally  
6 monthly.

7 Q. What was the name of the journal?

8 A. Journal of American Industrial -- wait a minute.  
9 Journal of the American Industrial Hygiene Association.

10 Q. What year or years were you the President of  
11 the organization?

12 A. Let's see.

13 Q. 1940's, 1950's,  
14 1960's?

15 A. I'd say 1950's. Late 1950's.

16 Q. Did the American Public Health Association  
17 publish a journal?

18 A. Yes. They had the American Journal of Public  
19 Health, which was a monthly -- is a monthly journal.

20 Q. Did the section on industrial hygiene publish  
21 its own journal?

22 A. No.

23 Q. Did you regularly receive the American Public  
24 Health Association Journal?

25 A. Yes.

26 Q. Did the American Society of Heating and  
27 Ventilating Engineers publish any journal or magazine?

28 A. Yes. They had -- that was a monthly journal.

1 Heating and Ventilating Engineering, I think it was called.  
2 The name changed several times.

3 Q. Did the American Standards Association publish  
4 a journal or magazine?

5 A. I think they had a magazine, but that was more  
6 of association activities. Their big work was the  
7 standardization codes in various areas, and these came out  
8 as pamphlets or booklets in each instance.

9 Q. Would it be a correct statement, Mr. Hazard,  
10 that you read these journals in an effort to keep abreast  
11 of what was happening in the industrial hygiene field?

12 A. Yes, that's true.

13 Q. I take it also that you considered it part of  
14 your responsibility as the industrial hygienist for  
15 Owens-Illinois to stay abreast of the developments in  
16 your field?

17 A. Yes.

18 Q. In the course of your training to become an  
19 industrial hygienist, did you take any courses in medicine?

20 A. No, sir, I don't believe so.

21 Q. Have you in the course of your life taken any  
22 courses in physiology?

23 A. Yes, to the extent of what you might call  
24 respiratory physiology; that is, the function and action of  
25 the lungs.

26 Q. When did you take a course in respiratory  
27 physiology?

28 A. Well, it was in the late thirties, as I

1 remember it.

2 Q. At Harvard?

3 A. Yes.

4 Q. Part of your MA training?

5 A. No, it was after that.

6 Q. Have you in the course of your life taken any  
7 courses in epidemiology?

8 A. No formal course. But I've attended technical  
9 meetings where epidemiologic subjects were discussed.

10 Q. What is your understanding of what epidemiology  
11 is?

12 A. It's the study of a group of people as they react  
13 to various outside agents. As contrasted with the reaction  
14 of a single individual.

15 Q. Would it be correct that one of the purposes of  
16 an epidemiological study is to determine cause and effect  
17 relations?

18 A. Yes.

19 Q. Can you tell us, in connection with what  
20 association or what technical meeting epidemiological  
21 subjects were discussed?

22 A. Well, the one that comes to mind is at meetings  
23 of the American Industrial Hygiene Association where  
24 epidemiologic studies are important because they are, as you  
25 say, the study of the cause and effect.

26 Q. Let me take a break from questions and answers  
27 and go over these documents. For the record, let me state  
28 that this morning before we went on the record formally I

1 provided to Mr. Hazard and Mr. Callahan a group of  
2 documents which I asked Mr. Hazard to look at and determine  
3 from the entire stack those documents that he could  
4 identify from his present recollection and those that he  
5 could not, and we've now separated the stack into documents  
6 that he recalls and documents that he does not recall.  
7 What I propose to do is take the stack of documents that he  
8 does recall or does have a memory of and mark those. I'll  
9 identify them as best I can and then I'll ask questions of  
10 the witness when I'm all done identifying them. Okay?

*Exhibit 1*  
11 Exhibit Number 1 to this deposition is a two-paged  
12 document on the letterhead of Owens-Illinois Glass  
13 Company dated February 12, 1943, addressed to Dr.  
14 Gardner from U. E. Bowes.

15 Exhibit Number 2 --

16 MR. HOCH: Is there a subject on that?

17 MR. SILBERFELD: No. I can tell you generally what  
18 it's about. There is no subject line.

19 Exhibit Number 2 is a copy of a letter dated  
20 December 24, 1946, from Mr. Mandred Bowditch, to Mr.  
21 Hazard.

22 Exhibit 3, a copy of a Western Union telegram from  
23 Mr. Hazard to Manford Bowditch, dated December 24, no  
24 year.

25 MR. BERRY: It does have a date way up in the  
26 right-hand corner.

27 MR. SILBERFELD: It seems to be a received stamp of  
28 some kind, or a clocked-in stamp, and it has the year '47.

1 But the actual text of the telegram doesn't have a year,  
2 although that is in the upper right-hand corner, you're  
3 right, Mr. Berry.

4 Exhibit Number 4 is a copy of a letter addressed to  
5 Mr. Hazard from Mr. Bowditch dated January 4, 1947.

6 Exhibit Number 5 is a letter on the letterhead of  
7 Owens-Illinois glass, dated January 8, 1947, from Mr.  
8 Hazard to Mr. Bowditch.

9 Exhibit 6 is a copy of a letter from Mr. Bowditch  
10 to Mr. Hazard, dated January 10, 1947.

11 Exhibit 7 is a copy of a letter from Mr. Hazard to  
12 Mr. Bowditch, dated January 27, 1947.

13 Exhibit 8 is a copy of a letter from Mr. Bowditch  
14 to Mr. Hazard dated January 30, 1947.

15 Exhibit 9 is a copy of a letter from Mr. Hazard to  
16 Mr. Bowditch, dated February 6, 1947.

17 Exhibit 10 is a copy of a letter from Mr. Bowditch  
18 to Mr. Hazard, dated February 10, 1947.

19 Exhibit 11 is an 11 page report dated October 30,  
20 1947, entitled "interim report on animal inhalation  
21 experiments with Kaylo."

22 Exhibit 12 is a copy of a letter from Dr.  
23 Vorwald to Mr. Hazard, dated October 31, 1947.

24 Exhibit 12 is a copy of a letter from Mrs. Lillian  
25 Blinn -

26 MR. BOGAN: 13.

27 MR. SILBERFELD: Exhibit 13 is a copy of a letter  
28 from Mrs. Lillian R. Blinn, executive secretary to

1 Dr. Vorwald, to Mr. Hazard, dated November 11, 1947.

2 Exhibit 14, a copy of a letter from Mr. Hazard to  
3 Dr. Vorwald dated January 9, 1948.

4 Exhibit 15 is a copy of a letter from Dr. Vorwald  
5 to Mr. Hazard, dated January 19, 1948.

6 Exhibit 16 is a copy of a letter from Mr. Hazard to  
7 Dr. Vorwald dated January 28, 1948.

8 Exhibit 17 is a copy of a letter from Mrs.  
9 Blinn to Mr. Hazard dated February 9, 1948.

10 Exhibit 18 is a copy of a letter from a Grippa G.  
11 Robert, M. D., to Mr. Hazard, dated February 20, 1948.

12 MR. HOCH: The date again?

13 MR. SILBERFELD: February 20, 1948, I believe.

14 Exhibit 19 is a copy of a letter from U. E. Bowes to  
15 Dr. Arthur J. Vorwald, dated March 31, 1948.

16 Exhibit 20 is a copy of a letter from Dr. Vorwald  
17 to Mr. Bowes dated April 26, 1948.

18 Exhibit 21 is a copy of a letter from Mr. Hazard to  
19 Dr. Vorwald, dated September 21, 1948.

20 Exhibit 22 is a copy of a letter from Mrs.  
21 Lillian R. Blinn to Mr. Hazard, dated September 24,  
22 1948.

23 Exhibit 23 is a copy of a letter from -- let me  
24 withdraw that. We've got two copies of the same thing.  
25 Exhibit 23 is a copy of a letter from Dr. Vorwald to  
26 Mr. Bowes, dated November 16, 1948.

27 Exhibit 24 is entitled "interim report regarding the  
28 biological activity of Kaylo dust," bears a date of

1 October 30, 1948.

2 Exhibit 25 is an interim report regarding the  
3 biological activity of Kaylo dust, dated April 30,  
4 1949.

5 Exhibit 26, a copy of a letter from Mr. Hazard to  
6 Dr. Vorwald dated July 6, 1949.

7 Exhibit 27 is a copy of a letter from Mr. Hazard to  
8 Dr. Vorwald dated January 5, 1950.

9 Exhibit 28 is a copy of a letter from Dr. Vorwald  
10 to Mr. Hazard, dated January 12, 1950.

11 Exhibit 29 is an interim report regarding the  
12 biological activity of Kaylo dust, dated January 1,  
13 1950.

14 Exhibit 30 is a copy of a letter from Dr. Vorwald  
15 to Mr. Hazard, dated February 1, 1950.

16 Exhibit 31 is a copy of a letter from Mr. Hazard to  
17 Dr. Vorwald, dated February 14, 1950.

18 Exhibit 32 is a copy of a letter from Mrs.  
19 Lillian R. Blinn to Mr. Hazard dated February 25 -  
20 pardon me -- February 24, 1950.

21 Exhibit 33 is a copy of a letter from Mr. Hazard to  
22 Mrs. Lillian R. Blinn dated March 7, 1950.

23 Exhibit 34 is a copy of a letter from Mrs.  
24 Blinn to Mr. Hazard, March 10, 1950.

25 Exhibit 35 is a copy of a letter from Mr. Hazard to  
26 Dr. Vorwald, dated April 3, 1950, and also  
27 bearing a dictation date of March 31, 1950.

28 Exhibit 36 is a copy of a letter from Mr. Hazard to



1 Dr. Vorwald, bears a date of May 18, 1950,  
2 and a dictation date of May 17, 1950.

3 Exhibit 37 is a copy of a letter from Dr. Vorwald  
4 to Mr. Hazard, dated June 1, 1950.

5 Exhibit 38 is a copy of a telegram from Mr. Hazard to  
6 Dr. Vorwald, bears a date of June 6, 1950.

7 Exhibit 39 is a copy of a letter from Mrs.  
8 Blinn to Mr. Hazard, dated June 6, 1950.

9 Exhibit 40 is a copy of a letter from Mr. Hazard to  
10 Dr. Vorwald, dated August 2nd, 1950.

11 Exhibit 41 is a copy of a letter from Dr. Vorwald  
12 to Mr. Hazard, dated October 15, 1950.

13 Exhibit 42 is a copy of a letter from Mr. Hazard to  
14 Dr. Vorwald, dated October 30, 1950.

15 Exhibit 43 is a copy of a letter ~~from~~ from Mr. Hazard to  
16 Dr. Vorwald, dated December 12, 1950.

17 Exhibit 44 is a copy of a letter from Dr. Vorwald  
18 to Mr. Hazard dated December 18, 1950.

19 Exhibit 45 is a copy of a letter from Dr. Vorwald  
20 to Mr. Hazard dated December 19, 1950.

21 Exhibit 46 is a copy of a letter from Mr. Hazard to  
22 Dr. Vorwald, dated December 26, 1950.

23 Exhibit 47 is a copy of a letter from Mr. Hazard to  
24 Dr. Vorwald dated January 15, 1951.

25 Exhibit 48 is a copy of a telegram from Mr. Hazard to  
26 Dr. Vorwald, dated January 19, 1951.

27 Exhibit 49 is a copy of a letter from Dr. Vorwald  
28 to Mr. Hazard, dated January 22, 1951.

1 Exhibit 50 is a copy of a letter from Mrs.  
2 Blinn to Mr. Hazard, dated January 25, 1951.

3 Exhibit 51 is a copy of a letter from Edward C. j.  
4 Urban, to Mr. Hazard, dated February 26, 1951.

5 Exhibit 52 is a copy of a letter from Mr. Hazard to  
6 Dr. Vorwald dated April 30, 1951.

7 Exhibit 53 is a copy of a letter from Mrs.  
8 Blinn to Mr. Hazard, dated May 2, 1951.

9 Exhibit 54 is a copy of a letter from Mr.  
10 Thomas M. Durkan, to Mr. Hazard, dated June 6, 1951.

11 Exhibit 55 is a copy of a letter from Mr. Hazard to  
12 Dr. Vorwald dated June 8, 1951.

13 Exhibit 56 is a copy of a letter from Mr. Hazard to  
14 Thomas M. Durkan, dated July 11, 1951.

15 Exhibit 57 is a copy after a letter from Mr. Hazard  
16 to Dr. Vorwald dated July 13, 1951.

17 Exhibit 58 is a copy of a letter from Thomas M.  
18 Durkan to Mr. Hazard, dated August 7, 1951.

19 Exhibit 59 is a copy of a letter from Mr. Hazard to  
20 Mr. Durkan, dated August 7, 1951.

21 Exhibit 60 is a copy of a letter from Dr. Vorwald  
22 to Mr. Hazard, dated August 17, 1951.

23 Exhibit 61 is a copy of a letter from Mrs.  
24 Blinn to Mr. Hazard, dated October 26, 1951.

25 Exhibit 62 is a copy of a letter from Mr. Hazard to  
26 the Trudeau foundation, October 29, 1951.

27 Exhibit 63 is a copy of a letter from Mrs.  
28 Blinn to Mr. Hazard, dated October 31, 1951.

1 Exhibit 64 is a copy of a letter from Mr. Hazard to  
2 Dr. Vorwald, and attached to the letter are two pages  
3 entitled "samples of dust from Saryville, New Jersey  
4 plant for analysis, Owens-Illinois Glass Company." Did  
5 I give you the date of the letter?

6 MR. BOGAN: No.

7 MR. SILBERFELD: I'm not going to. January 4, 1952.

8 Exhibit 65 is a copy of a letter from Dr. Vorwald  
9 to Mr. Hazard, February 7, 1952.

10 Exhibit number 66 is a document entitled "Investigation  
11 concerning the capacity of inhaled Kaylo dust to  
12 injure the lung," bears a date of January 30, 1952,  
13 authored by the Saranac laboratory.

14 67 is a copy of a letter from Mr. Durkan to Mr.  
15 Hazard, dated ~~March~~ 11, 1952.

16 Exhibit 68 is a copy of a letter from Mr. Hazard to  
17 Mr. Durkan, dated April 8, 1952.

18 Exhibit 69 is a copy of a letter from Mr. Durkan  
19 to Mr. Hazard, dated May 10, 1952.

20 Exhibit 70 is a copy of a letter from Mr. Hazard to  
21 Mr. Durkan, dated May 12, 1952.

22 Exhibit 71 is a document on the intra-company  
23 correspondence of Owens-Illinois Glass Company, addressed  
24 to Mr. P. A. Gillis, and signed by Bill. Bears a date  
25 of November 21, 1952.

26 Next is a memo on the intra-company correspondence of  
27 Owens-Illinois to the attention of Mr. M. M. Ollander,  
28 it is unsigned, bears a date of October 5, 1955. That will

1 be 72.

2 Exhibit 73 is a copy of a letter from W. G. Hazard to  
3 Mr. Ira I. Brought, dated June 12, 1956.

4 MR. BERRY: Didn't you already mark that as 72,  
5 Mr. Silberfeld. You've got October, '55, I think you  
6 said.

7 MR. SILBERFELD: It's '55, whatever I said.

8 MR. BERRY: Okay.

9 MR. SILBERFELD: 73, we've gotten all the information  
10 on.

11 74 is a multi-paged document which is a Xeroxed copy  
12 from some journal, an article entitled, "The effect of  
13 inhaled commercial hydrous calcium silicate dust on  
14 animals tissues, an experimental study," by G. W. H.  
15 Schepers, M. D., and others.

16 MR. HOCH: What was the date on that, if there is one?

17 MR. BERRY: 1955.

18 MR. HOCH: I think it's 55.

19 MR. SILBERFELD: Where would the date be?

20 MR. SIMON: September, 55.

21 MR. SILBERFELD: I'm sorry. You're right. Reprinted  
22 from  
23 the AMA archives of Industrial Health, September 55,  
24 volume 12, and then the pages.

25 MR. HOCH: Thank you.

26 Q. BY MR. SILBERFELD: Mr. Hazard, it's correct,  
27 is it not, that before we started the deposition today I  
28 presented these documents to you and your counsel?

1 A. Yes.

2 Q. And you had the opportunity to go through the  
3 entire stack of documents and take out those which you  
4 recognized and those which you did not?

5 A. Yes.

6 (Whereupon Plaintiff's Exhibits 1-74 were marked for  
7 identification at this time.)

8 Q. The documents that I just read which have now  
9 been marked as Exhibits 1 through 74 are documents which  
10 you recall from your years of employment at  
11 Owens-Illinois?

12 A. Yes.

13 Q. Okay. Now, with regard to Exhibits 1 through  
14 74, those of them that were authored by you, sir, were they  
15 authored by you in the regular course of business at  
16 Owens-Illinois Glass Company?

17 A. Yes.

18 Q. And those that were authored by you, sir, were  
19 they authored by you at or about the time that is shown on  
20 the documents with the various dates?

21 A. Yes.

22 Q. And with regard to those documents in Exhibits  
23 1 through 74 that were received by you, were they received  
24 by you in your capacity as the industrial hygienist of  
25 Owens-Illinois Glass Company?

26 A. Yes, sir.

27 Q. Were they received by you in the regular and  
28 ordinary course of the business of Owens-Illinois Glass?

1 A. Yes.

2 Q. Were these records, Exhibits 1 through 74, kept  
3 by you in the ordinary course of your duties as the  
4 industrial hygienist of Owens-Illinois Glass Company?

5 A. Kept by me or by the girl who worked for me.

6 Q. All right. So they were either kept by you or  
7 someone working for you at Owens-Illinois?

8 A. Yes.

9 MR. SIMON: Sir, those documents among the ones that  
10 you reviewed that are signed with the signature "Bill" were  
11 authored by you; is that correct?

12 THE WITNESS: Yes.

13 MR. SIMON: Thank you.

14 MR. BERRY: Off the record. Forget it.

15 (Discussion held off the record.)

16 Q. BY MR. SILBERFELD: Mr. Hazard, the documents  
17 which are before us, Exhibits 1 through 74, are Xeroxed  
18 copies of originals, or carbons, as the case may be,  
19 correct?

20 A. I don't want to get picky, but are they -- are  
21 you sure they're Xeroxed? They are photocopies.

22 MR. SIMON: That's one.

23 MR. SILBERFELD: That's like jello and Kleenex, the  
24 same thing.

25 Q. They are photocopies, in any event, of either  
26 originals or carbons?

27 A. Yes.

28 Q. Are they, from your review of the documents,

1 true and correct copies of either the originals that were  
2 sent by you or the copies or carbons that were received by  
3 you?

4 A. Yes, so far as I know they are true and  
5 originals.

6 ~~MR. BERRY: You still got the problem. You have him~~  
7 ~~authenticating file copies from Saranac as if they were~~  
8 ~~received by him. Don't worry about it.~~

9 ~~Q.~~ BY MR. SILBERFELD: In terms of the substance  
10 of the documents that are contained in Exhibits ~~1 through~~  
11 74, are you satisfied that ~~they are~~ <sup>IT IS</sup> true and correct as far  
12 as the substance is concerned?

13 MR. SIMON: The text itself.

14 THE WITNESS: Yes, sir.

15 ~~Q.~~ BY MR. SILBERFELD: Although what we may have  
16 here is a carbon as distinguished from an original or  
17 original distinguished from a carbon, the text of the  
18 documents that we have here before us are as you recall  
19 them at the time that you either sent them or got them; is  
20 that correct?

21 A. Yes.

22 MR. SILBERFELD: Any other problems? Seriously.  
23 Does that solve it for you?

24 MR. BERRY: Yeah. I just figured you wanted it the  
25 right way.

26 MR. BOGAN: Did he either receive or send every one  
27 of these?

28 MR. SILBERFELD: Yes. Now, Jack, let's go to the

1 ones that we don't have any idea of.

2 Exhibit number 75 is a two-paged letter, copy of a  
3 letter, from Dr. Gardner to Mr. Bowes.

4 (Whereupon Plaintiff's Exhibit 75 was marked for  
5 identification at this time.)

6 Q. Mr. Hazard -

7 MR. BOGAN: What's the date?

8 MR. SILBERFELD: February 23, 1943.

9 Q. In February of 1943, did Owens-Illinois  
10 Glass Company have an employee by the name of U. E. Bowes?

11 A. Yes.

12 Q. Was Mr. Bowes the Director of Research  
13 for the company at that time?

14 ~~A. Yes, he was.~~

15 Q. Were you familiar in 1943 with a Leroy U.  
16 Gardner, M. D.?

17 A. Yes.

18 Q. Who was Dr. Gardner at that time?

19 A. He was the director of the laboratory known  
20 as the Saranac laboratories, Saranac Lake, New  
21 York.

22 ~~Q. I take it that you would be unfamiliar with~~  
23 this document because this was at the time when you were at  
24 the Public Health Service.

25 A. That's true.

26 Q. Okay. How long, Mr. Hazard, was Mr. Bowes  
27 the Director of Research for Owens-Illinois Glass?

28 A. I don't know. Approximately, I'd say, 10 years.



1 Q. During what years was he the Director of  
2 Research?

3 A. I don't know the dates.

4 Q. After you returned from the Public Health  
5 Service, did you ever have occasion to review  
6 correspondence from Dr. Gardner to Mr. Bowes?

7 A. I don't remember whether I saw the  
8 correspondence or not. I was familiar with the substance  
9 of it.

10 Q. Have you seen the stack of letters which you  
11 have been presented with here this morning, the smaller  
12 stack, before today?

13 MR. CALLAHAN: Those are the ones you could not  
14 recall.

15 THE WITNESS: I don't -- you mean the actual pieces  
16 of paper?

17 MR. SILBERFELD: Yes, sir.

18 THE WITNESS: I don't remember seeing them before  
19 today.

20 MR. SILBERFELD: Let me mark as 76 a letter from  
21 Mr. Bowes to Dr. Gardner, dated November 21,  
22 1944.

23 (Whereupon Plaintiff's Exhibit 76 was marked for  
24 identification at this time.)

25 Q. BY MR. SILBERFELD: I appreciate the fact, Mr.  
26 Hazard, that you don't recall the context of the letter or  
27 the substance of it. Can you identify Mr. Bowes'  
28 signature there?

1 A. Yes, that's his signature.

2 Q. On the letterhead of Owens-Illinois Glass,  
3 yes.

4 MR. SIMON: Is that your understanding, sir, that  
5 that is on the letterhead of Owens-Illinois Glass as  
6 that letterhead existed on the date shown on the letter?

AP 7 CP  
THE WITNESS: Yes.

8 MR. SIMON: Thank you.

9 MR. SILBERFELD: There is a reference in one of these  
10 letters, Mr. Hazard --

11 MR. CALLAHAN: We've been in session about an hour  
12 now, an hour and a half, really.

13 MR. SILBERFELD: I've got two documents. Just finish  
14 this and then we'll take a break. Is that all right?

15 MR. CALLAHAN: Un-huh.

16 MR. SILBERFELD: There is a reference on one of these  
17 letters, Mr. Hazard, to an A. C. Hirth. Do you know who  
18 that was in 1944?

19 A. Yes, sir, I do.

20 Q. BY MR. SILBERFELD: Who was that?

21 A. He was an attorney who was on the payroll of  
22 Owens-Illinois.

100  
23 Q. At some point in time in the 1940's,  
24 did Owens-Illinois have a subsidiary company by the name  
25 of the American Structural Products Company?

26 A. Yes, sir.

27 Q. What was the business of the American  
28 Structural Products Company?

1 A. They made this product Kaylo, and as I  
2 remember it, another division made glass block which was  
3 trade named Insulux block, which was a totally  
4 different product from Kaylo. But I believe both of  
5 those divisions were in the American Structural Products  
6 Company.

7 MR. SILBERFELD: Okay. Let's take a break. 10  
8 minutes?

9 MR. CALLAHAN: Right.

10 ~~(Recess held.)~~

11 ~~Q.~~ BY MR. SILBERFELD: Mr. Hazard, before we go on  
12 to talk about your work at Owens-Illinois, I just want  
13 to concentrate on 1942 to 1946 for a minute. That  
14 was the period of time you were with the United States  
15 Public Health Service, correct?

16 A. That's right.

17 Q. What were your duties and responsibilities with  
18 the United States Public Health Service?

19 A. I was in their division of industrial hygiene,  
20 and I was assigned to the State of New Jersey to work  
21 with the personnel of the State Health Department and  
22 the State Division of Industrial Hygiene.

23 Q. What were your duties and responsibilities, sir?

24 A. Principally to visit plants around the state  
25 which had war contracts and determine whether the working  
26 conditions were safe and whether the dusts and fumes and  
27 gasses and other situations were under control.

28 Q. Okay.

1 A. We also did some publications, bulletins, in  
2 this area, which were sent to various plants for them to  
3 use in training their own personnel.

4 Q. To the extent that your work on behalf of the  
5 Public Health Service disclosed excessive amounts of  
6 dust or fumes or contaminants, did you have the authority  
7 on behalf of the United States government to affect some  
8 action in that regard?

9 A. No, not directly. Our purpose was to point out  
10 such conditions to the plant management, suggest ways of  
11 correcting it, but then it was up to him to go ahead and  
12 correct it.

~~13 MR. BERRY: You didn't mark the 1944 Hirth thing as~~  
~~14 77, did you? The last document before he with went.~~

~~15 MR. HOCH: The last one is 76.~~

~~16 Q. BY MR. SILBERFELD: During those years, from~~  
~~17 1942 to 1946, do you recall ever visiting the~~  
~~18 Owens-Illinois plant at Berlin?~~

~~19 A. I don't believe I did.~~

~~20 Q. The Johns-Manville plant at Manville,~~  
~~21 New Jersey?~~

~~22 A. I don't remember.~~

~~23 Q. Okay. During the course of your professional~~  
~~24 life, Mr. Hazard, have you authored any publications, or~~  
~~25 chapters in books or anything like that?~~

~~26 A. Chapters in books, in the general area of~~  
~~27 ventilation and dust and fume and gas measurements.~~

~~28 Q. I believe at your last deposition there was a~~

1 curriculum vitae that was marked as an exhibit, if I'm not  
2 mistaken. Do you have a current curriculum vitae?

3 A. I don't have any with me.

4 Q. Maybe our good friend Mr. Callahan has one.

5 MR. CALLAHAN: Can you identify that?

6 THE WITNESS: Yes.

7 MR. SILBERFELD: I'd like to mark this as 77 to this  
8 deposition. We'll get a copy of it later, Jack.

9 Q. There is a list of publications here, Mr.  
10 Hazard. Is this the entire list of publications which  
11 you've authored or participated in?

12 A. Those are the principal ones. I don't recall  
13 any others, but I'm not sure about that.

14 ~~Q. Thank you, sir.~~

15 Now, Mr. Hazard, when was the first time that you  
16 personally became aware that there may be a health hazard  
17 associated with exposure to asbestos?

18 ~~MR. HOCH: Objection, vague, ambiguous, unintelligent,~~  
19 ~~not specified the environment, type of asbestos, or~~  
20 ~~quantity or quality or era.~~

21 MR. SILBERFELD: You done, Steve?

22 MR. HOCH: Yes.

23 MR. SILBERFELD: You can answer the question. You  
24 can go ahead and answer the question, sir. Do you have it  
25 in mind?

26 THE WITNESS: Yes. You mean asbestos in general?

27 MR. SILBERFELD: Yes, sir, in general, and then we'll  
28 break it down a little bit.

1 THE WITNESS: It was probably about 1931.

2 Q. BY MR. SILBERFELD: How did you gain that  
3 knowledge?

4 A. From some of the papers and articles which were  
5 at the Harvard School of Public Health when I was  
6 working there.

7 Q. And do you recall at this time the names of any  
8 of those articles that you knew about then?

9 A. No, I don't remember the names.

10 Q. But they were in the library of the Harvard  
11 School of Public Health?

12 A. Yes.

13 Q. This was while you were a student at  
14 Harvard, correct?

15 A. Well, I wasn't technically a student at that  
16 time. This was after I got out of the graduate school.  
17 But I had access to the library of the School of Public  
18 Health.

19 Q. So your research or reading in that area was  
20 part of your continuing effort to keep abreast of the  
21 industrial hygiene literature?

22 A. Yes. And also at that time industrial hygiene  
23 was new to me, so I was learning.

24 Q. Okay.

25 A. Or attempting to.

26 Q. Now, what specifically did you learn back in or  
27 around 1931 with regard to the health effects of  
28 asbestos exposure?

1           A.    It was said that breathing asbestos dust of  
2   small particle size over a prolonged period of years could  
3   cause a change in the membranes of the lungs. This change  
4   was characterized first by a shortness of breath. It was  
5   observable by chest x-ray. It did not predispose to any  
6   infection, and the principal effect was shortness of breath.  
7   By predisposing to any infection, I mean it did not make a  
8   person susceptible to pulmonary tuberculosis.

9           Q.    Was it your understanding at that time that the  
10   physiological effect in the process was a scarring of the  
11   lung tissue?

12          A.    Well, in a sense it was a scarring. It was a  
13   thickening and converting the lung tissue to a fibrous type  
14   of material. That's about the same thing as scarring, I  
15   guess.

16          Q.    You said that based upon your reading at that  
17   time it was observable on X-ray. What was observed on  
18   X-ray that was different from a normal chest X-ray?

19          A.    Well, the lung tissue that exhibited this scarring  
20   or thickening could be observed on X-ray. It was a change  
21   from normal appearance.

22          Q.    In learning the discipline of industrial  
23   hygiene, Mr. Hazard, did you take any particular interest  
24   in asbestos health effects as opposed to other dusts?

25          ~~MR. HOCH: Can I have that question read back, please,~~  
26   Jerry.  
27   (Record read.)

THE WITNESS: I didn't.

Q. BY MR. SILBERFELD: And what did you do to follow up on that particular interest in asbestos health effects?

A. Well, it was one of several dusts that produced lung effects, and I was interested in the effects of all these dusts, of which asbestos was one.

Q. This disease process that you've described to us having to do with exposure to asbestos, did you know at that time that it was called by the shorthand term asbestosis?

A. Yes.

Q. Now, when you joined the Owens-Illinois company for the very first time, did the company manufacture any product containing asbestos?

A. No, sir.

Q. When, to your knowledge, was the first time that the company manufactured any product containing asbestos?

A. Well, I think it was around 1944, thereabouts, during a period that I was not with the company.

Q. But you learned of this development after you returned in 1946, I take it?

A. Yes.

Q. What was the particular product that was developed by the company in 1944?

A. It was this material which is known as Kaylo, which is a calcium hydrous silicate

READ



1 chemical.

2 Q. Do you know roughly the materials that make up  
3 Kaylo? In 1944.

4 A. Well, there was lime, some form of lime,  
5 calcium, silica, one or two other things, which  
6 when processed were converted to the calcium hydrous  
7 silicate. And in addition, to give the resulting material  
8 some strength, asbestos was added. It did not enter  
9 into the chemical reaction but it gave the material some  
10 physical strength.

11 Q. Do you know of the total of a hundred percent  
12 of ingredients, what percentage, approximately, was  
13 asbestos?

14 A. About 15 percent.

15 Q. Do you have an understanding, sir, that there  
16 are various types of asbestos fiber?

17 A. Yes.

18 Q. Do you know what type of asbestos fiber was  
19 used in Kaylo?

20 A. I think it was Chrysotile.

21 Q. You mentioned that the Kaylo product  
22 contains silica. It was well known in the middle  
23 1940's, was it not, that there was a disease  
24 process called silicosis?

25 A. Yes, that's correct.

26 Q. As far as you knew, was Kaylo, insofar as  
27 it had silica in it, capable of producing silicosis?

28 A. No, it was not.

1 Q. Why not?

2 A. It was because the silica, which was SIO 2,  
3 was converted to a silicate. And silicates do not cause  
4 silicosis.

5 Q. So the finished product that came to be known  
6 as Kaylo was not capable of producing silicosis?

7 A. That's correct.

8 ~~MR. SIMON: Can I interpose one question?~~

9 MR. SILBERFELD: No. Go ahead.

10 ~~MR. SIMON: Sir, was it your understanding -- you~~  
11 ~~spoke of asbestos in terms of its strength~~  
12 ~~characteristics. Was it your understanding back in the~~  
13 ~~1940's that asbestos was selected for its~~  
14 ~~strength characteristics as opposed to any thermal~~  
15 ~~qualities that it might have had?~~

16 THE WITNESS: That was my understanding.

17 ~~MR. SIMON: Thank you, sir.~~

18 Q. BY MR. SILBERFELD: When you returned to  
19 Owens-Illinois in 1946, did you become involved in any  
20 research, study or survey of the health effects associated  
21 with Kaylo?

22 A. Yes.

23 Q. When was the first time that you became so  
24 involved?

25 A. I think it was probably in 1946, when I  
26 returned.

27 Q. What was the occasion that you became involved?

28 A. Mr. Bowes, who was Director of Research,

1 had been in touch with Dr. Gardner of the Saranac  
2 laboratory, and they had set up a program, or were about to  
3 set it up, I guess, for studying the health effects of  
4 Kaylo dust. And during this they used animal  
5 experimentation at the Saranac laboratory.

6 Q. Did you become familiar, in or about 1946, with  
7 the nature of the animal experimentation being conducted by  
8 Saranac labs?

9 A. Forty-six or '47. Maybe it was '47. But, yes,  
10 I did become familiar.

11 Q. What understanding did you obtain at that time  
12 as to what Saranac was doing in these animal studies?

13 A. Well, they had developed a routine procedure  
14 for exposing animals, hamsters and rabbits, in a dust room  
15 or animal rooms where clouds of dust were set up in the air,  
16 and the animals were in cages and they breathe whatever  
17 the dust was for a long time. Now, the dust exposure that  
18 these animals had was extremely high, very, very high, much  
19 higher than any human being would breathe. And the length  
20 of exposure was long. It was eight hours a day, five days,  
21 five and a half days a week, week after week, month after  
22 month, and it was the equal of the animal's lifetime,  
23 actually. No human would have dust exposure like that.  
24 But the purpose was to accelerate the effect of the dust so  
25 that its toxicity could be determined in a reasonable  
26 length of time.

27 Q. So to be very simple and basic about it, Mr.  
28 Hazard, the purpose of the studies at Saranac on

1 Kaylo were to determine whether there were any health  
2 hazards associated with Kaylo?

3 A. Yes, that's right, health hazards for humans.

4 ~~Q. Correct. It wasn't --~~

5 MR. SIMON: Sir, could you explain what you mean by  
6 the term toxicity?

7 A. Well, it's the harmfulness of an outside  
8 material on the human body.

9 MR. SIMON: To the best of your knowledge, is that  
10 the generally accepted definition of the term?

11 THE WITNESS: That's a pretty crude definition. I  
12 think that's the thought.

13 ~~MR. SIMON: Thank you.~~

14 Q. BY MR. SILBERFELD: Now, the purpose of these  
15 experiments on rabbits and hamsters was to find out what  
16 the likely reaction of humans would be to exposure to  
17 Kaylo?

18 A. Yes, that's right.

19 ~~MR. HOCH: Roman, just for the sake of clarity, since~~  
20 in the report, all copies of the report, be they interim or  
21 final, there is a difference between reactions of certain  
22 of the animals to others. I want to be sure when you say --  
23 you said rabbits and hamsters. You may be leaving out  
24 guinea pigs. I assume you're just referring to the animal's  
25 reaction generally.

26 MR. SILBERFELD: I used rabbits and hamsters because  
27 that's what the witness mentioned. Let's talk about  
28 animals.

1 ~~MR. HOCH: Thank you.~~

2 ~~Q. BY MR. SILBERFELD: Mr. Hazard -- withdraw that.~~

3 Had you had exposure to animal studies before you  
4 learned of these Saranac studies on Kaylo?

5 A. I don't understand what you mean, had I had  
6 exposure.

7 Q. Had you read about animal studies?

8 A. Oh, yes, I had.

9 Q. In general?

10 A. Yes.

11 Q. Not necessarily animal studies of Kaylo or  
12 dust, but animal studies generally.

13 A. Yes. I knew that was a technique that was used.

14 Q. Animal studies were, in the 1940's and  
15 well before that, a well recognized and accepted method of  
16 testing toxicity?

17 A. Yes.

18 ~~Q. One of the efforts of any researcher in~~  
19 connection with an animal study is to design the study in  
20 such a way that the exposure of the animals approximates  
21 what is believed to be the exposure to humans; isn't that  
22 correct?

23 A. Sometimes that's impossible.

24 Q. In terms of best estimates.

25 MR. HOCH: I think that misstates his prior testimony.

26 MR. SIMON: Sir, was it your understanding that  
27 animal --

28 MR. CALLAHAN: I don't wish to object to it at this

1 point, but I don't think we're following the guidelines  
2 precisely, and it might be somewhat onerous on Mr. Hazard  
3 to be --

4 ~~MR. BOGAN: Why don't one of you ask the questions.~~

1125  
5 Q. BY MR. SILBERFELD: Mr. Hazard, you had seen,  
6 in the course of your training and in the course of keeping  
7 abreast of the industrial hygiene literature, animal  
8 studies of various kinds, had you not?

9 A. I'd seen reports of them.

10 ~~Q. Yes.~~

11 A. Yes.

12 Q. You understood at that time, did you not, that  
13 the design of an animal study was intended so that the  
14 exposure of the animals approximated the exposure of humans  
15 to whatever the substance was that was involved in the  
16 study.

17 MR. HOCH: You asking specifically or generally? Are  
18 you referring to any one test?

19 MR. SILBERFELD: No. Generally animal studies in  
20 general and their design.

1124  
21 Q. Do you understand my question, sir?

22 A. I think I do, but I don't quite agree with it.

23 Q. All right.

24 A. I don't think that the animals, the animal  
25 experimentation, or the animal exposure is anywhere nearly  
26 like what a human exposure would be. Not as intense and as  
27 prolonged.

28 Q. BY MR. SILBERFELD: It is intended by exposing

1 animals, as you said earlier, to high levels of whatever  
2 the material is for long periods of time to get in a short  
3 period of time an answer to the question of toxicity,  
4 correct?

5 A. Yes, that's right.

6 Q. And if you tried to duplicate human exposure it  
7 might take you many, many years to do that, and you  
8 wouldn't get an answer for many, many years?

9 A. You mean have the animals exposed to what a  
10 human is exposed to?

11 Q. Yes, sir.

12 A. It would take many, many years. Wouldn't live  
13 that long.

14 Q. You might have generations passed before you  
15 got an answer to the question whether something was toxic,  
16 correct?

17 ~~A. Yes.~~

18 Q. ~~But~~ in concentrating exposure and making higher  
19 levels of exposure in animals, the results as far as  
20 toxicity is concerned are still valid as to humans, are  
21 they not, generally speaking?

22 ~~MR. HOCH: Objection, overly broad. Also calls for a~~  
23 ~~medical opinion.~~

24 ~~MR. SILBERFELD: Go ahead and answer.~~

25 THE WITNESS: I would like to look at it in another  
26 way.

27 MR. SILBERFELD: All right.

28 THE WITNESS: If the animal experimentation, which is

1 intense and prolonged, shows no toxic effect on the animal,  
2 you can validly assume that the human exposure won't be  
3 harmful.

4 MR. SILBERFELD: All right.

5 Q. If, on the other hand, the animal experiment  
6 does show some health effect on the animal as a result of  
7 the exposure, in your judgment, again speaking generally of  
8 animal studies, can the results of those studies be  
9 extrapolated to human exposure?

10 A. No.

11 MR. HOCH: Same objection.

12 MR. SILBERFELD: Go ahead.

13 THE WITNESS: They are a warning flag, but further  
14 investigation is needed to see whether, in fact, the human  
15 exposure is serious.

16 Q. BY MR. SILBERFELD: And in your opinion is the  
17 only way of determining whether humans are at risk to a  
18 particular substance to actually test it on humans?

19 A. No. No.

20 Q. How would you then determine, if you got a warning  
21 flag from an animal study, whether humans were at risk?

22 ~~MR. HOCH: Same objections, and also objections on~~  
23 ~~foundation as to this witness' competency in this area.~~

24 ~~MR. SILBERFELD: Go ahead and answer.~~

25 ~~MR. CALLAHAN: Go ahead.~~

26 THE WITNESS: You would inaugurate a program in the  
27 plant or at the operation where the exposure for humans  
28 exists to determine whether they are being affected by the



1 contaminant?

2 Q. BY MR. SILBERFELD: Well, that's what I meant  
3 when I said a human experiment.

4 A. That's not an experiment. That's a study under  
5 normal working conditions of whether the humans are effected  
6 in any way by this contaminant. I don't like the idea of  
7 an experiment on humans.

8 ~~Q. Let me withdraw the word experiment and say,~~  
9 having received a warning flag by an animal study, would it  
10 be your opinion that the only way to correlate that to the  
11 human experience would be to study humans in the exposed  
12 environment?

13 MR. HOCH: Roman, excuse me. Can I have a continuing  
14 objection on this line of questions on the foundation and  
15 expertise and overly broad and vague and ambiguous and what  
16 have you?

17 MR. SILBERFELD: You got it.

18 MR. HOCH: Thank you.

19 Q. BY MR. SILBERFELD: Do you have the question in  
20 mind, sir?

21 A. I wish you would repeat the question.

22 MR. CALLAHAN: Read it again, would you please.

23 (Record read.)

24 MR. CALLAHAN: The only way to correlate it.

25 THE WITNESS: Well, again, I don't like the word  
26 study humans. You can make observations.

27 MR. SILBERFELD: All right. Let me phrase it in that  
28 context.

1 Q. Assuming you've done a valid animal study and  
2 you've gotten this warning flag that you described, okay?

3 A. Un-huh.

4 Q. Are you with me so far?

5 A. Sure.

6 Q. And now you'd like to know whether or not the  
7 warning flag that you've received from the animals is valid  
8 or applicable to the human condition. Is it your opinion,  
9 Mr. Hazard, that the only way in which you can answer that  
10 question is by observing human beings in the exposure to  
11 the particular product or substance involved?

12 A. Well, I think that's probably a true statement.  
13 I'm hesitant about the only way. There may be other ways  
14 that I'm not familiar with. But this would involve -- well,  
15 would you like me to recount what we did?

16 Q. All right.

17 A. Or is that too specific right now?

18 Q. We'll get into -- you're speaking of Kaylo  
19 now?

20 A. Yeah.

21 Q. We'll get into that in just a moment. Based  
22 upon your training and experience, the way to correlate the  
23 result of an animal study for humans is to study or observe  
24 the humans in the environment with the exposed material?

25 A. Yes.

26 Q. Now, at Saranac these animal studies were  
27 done and certain results were obtained; isn't that correct?

28 A. Yes.

1 Q. The particular product that was used at  
2 Saranac was the finished product Kaylo, isn't that  
3 true?

4 A. Yes.

5 Q. The Saranac studies that were done and the  
6 various interim reports that were issued were not studies  
7 involving the raw materials that go into Kaylo; isn't  
8 that correct?

9 A. Yes.

10 Q. It was actually the finished product, the block  
11 or the dust of the block -

12 A. Yes.

13 ~~MR. BOGAN: In all fairness, the question is compound.~~  
14 ~~I think the facts bare out it was the dust of the block.~~

15 ~~MR. SILBERFELD: One time you sent them block, too.~~

16 ~~MR. BOGAN: Then they sent it back.~~

17 Q. BY MR. SILBERFELD: In all events, Mr. Hazard,  
18 the substance that was used in the Saranac experiments  
19 was the dust created by the manufacture of Kaylo?

20 A. Well, no. No.

21 Q. This was dust created by the sawing and planing  
22 of the finished product?

23 A. That, and other ways too, I think. But it was  
24 dust of the finished product.

25 Q. All right. At any time during your years with  
26 the company, did you participate in any work to replace the  
27 asbestos in the product with any other substance?

28 A. I did not participate, no.

1 Q. To your knowledge, between 1946 and 1972, was  
2 the replacement of asbestos in Kaylo ever considered  
3 by the company?

4 A. Yes, it was.

5 Q. When, for the first time?

6 A. I suppose it was in the late 1950's.

7 Q. What was the particular replacement for  
8 asbestos that was considered at that time?

9 A. Well, glass fiber had been developed by that  
10 time, and since its structure and appearance was something  
11 like asbestos fiber, physical appearance, I mean, it  
12 was hoped that glass fiber could be substituted for  
13 asbestos.

14 ~~Q. With regard to the asbestos containing~~  
15 Kaylo that was manufactured by Owens-Illinois  
16 during various years, can you describe for us generally the  
17 uses of that product that you're aware of?

18 A. I think you said the asbestos containing  
19 Kaylo.

20 Q. Yes, sir. As distinguished from Kaylo  
21 that didn't have --

22 A. Oh, I see. I thought -- yeah.

23 The uses?

24 Q. Yes, sir. The uses that you were aware of.

25 A. One was thermal insulation, and one was a  
26 structural product in slab form for roof covering. I think  
27 those were the two ones that I remember the most.

28 Q. During your years as the industrial hygienist,

1 were you aware that the thermal insulation product was used  
2 in shipyards around the nation?

3 A. I think I was aware of that, and it was used  
4 around piping and other places, not just shipyards.

5 Q. Had you heard from any source during the period  
6 1946 to 1972, that the application of Kaylo thermal  
7 insulation pipe covering created dust?

8 MR. HOCH: Can I have that question read back, please.  
9 (Record read.)

10 MR. BERRY: I guess I would object on behalf of  
11 Owens-Illinois.

12 MR. HOCH: Can I have the question read back first.  
13 Sorry, Jerry.  
14 (Record read.)

15 MR. HOCH: I'm going to object on the grounds it is  
16 vague, ambiguous and unintelligent, it's overly broad, it  
17 doesn't specify where, how, it doesn't specify what kind of  
18 dust, and in as much -- well, that's sufficient, I think.

19 MR. BERRY: On behalf of Owens-Illinois, just to  
20 tie into the objection, I object because it's not epecific  
21 as to time with respect to Owens-Illinois. That is, it  
22 doesn't break in '58.

23 MR. SILBERFELD: Go ahead, Mr. Hazard, you can answer  
24 the question.

25 MR. CALLAHAN: Do you know the question?

26 THE WITNESS: Would you read it again, please.

27 MR. SILBERFELD: I'll just repeat the substance of it.

28 Q. Did you become aware that the application of

1 thermal pipe covering created dust?

2 A. Yes.

3 MR. HOCH: Same objections.

4 Q. BY MR. SILBERFELD: When did you first become  
5 aware of that?

6 A. Oh, gosh. I suppose when I was at the School  
7 of Public Health in '30 to '34, sometime.

8 Q. What was your understanding at that time as to  
9 how the dust was created?

10 MR. HOCH: Same objections on the word dust and the  
11 use of that phrase. Go ahead and answer the question, sir.

12 MR. SILBERFELD: Go ahead and answer the question.

13 THE WITNESS: Dust was created in the general  
14 handling of pipe insulation. The cutting of it, the stacking  
15 of it, handling it in general. Hitting two pieces against  
16 each other, that sort of thing.

17 Q. BY MR. SILBERFELD: In the thirties, when you  
18 first learned about this situation, did you know that --  
19 well, withdraw that.

20 With regard to the work that was done by Saranac  
21 laboratory for Owens-Illinois, it's your understanding,  
22 is it not, that the study by the laboratory was financed by  
23 Owens-Illinois?

24 A. Yes.

25 Q. Who originated the study?

26 A. It was originated when I was not at the company.  
27 I believe Mr. Bowes originated it.

28 Q. And the contact at Saranac laboratories at

1 that time was Dr. Gardner; is that correct?

2 A. Yes.

3 Q. Did you know of Dr. Gardner's reputation  
4 in the 1940's?

5 A. Yes.

6 Q. What was Dr. Gardner's reputation?

7 A. It was the highest. He was very highly  
8 regarded as a toxicologist.

9 Q. Did he have any particular training or aptitude  
10 as far as you knew in pulmonary problems?

11 A. Yes, he did.

12 Q. Dr. Gardner stayed with the project, did  
13 he not, until his death?

14 A. Yes.

15 Q. Then the project was picked up and carried  
16 forward by Dr. Vorwald?

17 A. Yes.

18 Q. Did you know Dr. Vorwald's reputation at the  
19 time he was involved in the project?

20 A. Yes.

21 Q. What was his reputation?

22 A. It was -- he had a very high reputation. He  
23 was familiar with the effects of breathing dust, and he was  
24 a good investigator, experimenter, I mean, conducting  
25 experiments.

~~26 Q. Now, as the exhibits which we've marked today,~~  
27 Mr. Hazard, demonstrate, you had some regular contact with  
28 the people at Saranac in connection with the Kaylo

1 study, did you not?

2 A. Yes.

3 Q. In addition to the documents that we've marked  
4 here today, did you maintain any personal files of the work  
5 that was being done on behalf of the company at Saranac?

6 A. It was my understanding that in those exhibits  
7 are my personal files.

8 Q. From your review of the exhibits this morning,  
9 are there any documents not in this stack which would be in  
10 your personal files if you have any left?

11 A. I don't know of any.

12 Q. We've picked you clean, in other words.

13 A. Clean as a whistle.

14 Q. The sense I get from some of the correspondence  
15 is that you and Dr. Vorwald became friendly.

16 A. Yes.

17 Q. Did you maintain that friendship throughout the  
18 time that he was involved in the Kaylo study?

19 A. Yes.

20 Q. Were you involved in any research about the  
21 health effects of Kaylo independent of the work that  
22 was being done for your company by Saranac?

23 ~~A. I don't remember any.~~

24 Q. Now, with regard to the animal studies that  
25 were conducted by Saranac, did you consider the results  
26 of the final report issued in 1952 to be a warning flag, as  
27 you used that term earlier today?

28 ~~MR. HOCH: I'm sorry. Can I have that question read~~



1 back, please?

2 (Record read.)

3 THE WITNESS: Well, in effect it was a warning -

4 MR. BERRY: Wait.

5 MR. SIMON: They may want to object to the question.

6 THE WITNESS: Oh.

7 ~~MR. CALLAHAN: Go ahead, you may answer.~~

8 THE WITNESS: In effect, the results were a warning  
9 flag.

10 Q. BY MR. SILBERFELD: And they were a warning  
11 flag because adverse results had been reported in the  
12 animals that were exposed to Kaylo dust, isn't that  
13 right?

14 A. Yes.

15 Q. Now, following the issuance of the final report  
16 of Saranac, did Owens-Illinois, to your knowledge,  
17 conduct any further study, observation, testing or  
18 experimentation to determine the significance of this  
19 warning flag to human beings?

20 A. We had a program in effect, already in effect  
21 at the manufacturing plants, and it had failed to show that  
22 there was any danger. And we continued that and strengthened  
23 it to some extent, and kept it going.

24 Q. You're speaking of the X-ray program?

25 A. Yeah, annual physical examinations, chest  
26 X-rays, which were run by -- or read by specialists in that  
27 field, and several other things.

28 Q. These were examinations conducted on the

1 employees at Berlin and Saryville?

2 A. Yes.

3 ~~Q. When did those examinations begin, sir?~~

4 A. I believe they began at the time each plant  
5 opened. Annually thereafter.

6 Q. Can you date for us the opening of the Berlin  
7 plant?

8 A. No.

9 Q. Saryville?

10 A. No.

11 Q. Okay.

12 A. I wasn't here at that time.

13 Q. Was that during your service with the  
14 Public Health Service?

15 A. As I remember it, it was.

16 Q. So that those two plants would have opened  
17 somewhere between 1942 and 1946, as far as you  
18 remember?

19 A. Yes, as far as I can remember, yes.

20 Q. Okay. In terms of the annual physical  
21 examinations and chest X-rays, was there any distinction  
22 made, Mr. Hazard, at any time that those exams were  
23 conducted, between production employees and non-production  
24 employees?

25 A. What do you mean, distinction?

26 Q. Well, for example, did the annual physical  
27 examinations and chest X-ray program involve only the  
28 production employees?

1 ~~A. No, it involved the salaried employees, or the~~  
2 ~~administrative employees.~~

3 Q. So included in the program were not only the  
4 production employees, namely the people manufacturing the  
5 product, but also the administrative and support people?

6 A. Yes.

7 Q. Okay.

8 A. This was true in all the plants. It wasn't  
9 unique to those two.

10 ~~Q. The administrative and support people were~~  
11 included in the annual physical and x-ray program even  
12 though they did not have direct daily exposure to the  
13 product; isn't that correct?

14 A. Yes.

15 MR. HOCH: That's an objection, that's assuming  
16 something which may not be true. It's also vague as to  
17 what you mean by direct, it's also vague as to what you're  
18 talking about in terms of products.

19 MR. SILBERFELD: Go ahead and answer the question.

20 THE WITNESS: The administrative and salaried  
21 employees received periodic physical examinations and chest  
22 X-rays in the interest of accuracy that maybe their chest  
23 X-rays were every two years rather than annually. I'm not  
24 sure about that.

25 Q. BY MR. SILBERFELD: When the final report of  
26 Saranac came out and the warning flag went up, so to  
27 speak, did Owens-Illinois do anything further than what  
28 you've already described in the annual physical and X-ray

1 program to observe or study its own employees' exposure to  
2 Kaylo?

3 A. Well, we were already doing further things, and  
4 ~~we continued them.~~

5 Q. Further things than the annual physical and the  
6 chest x-ray?

7 A. Yes.

8 Q. What things were those, sir?

9 A. Well, since the opening of the plants, we had  
10 kept accurate records of sickness absenteeism, according to  
11 type of illness. And these records covered sicknesses of  
12 one day or more in length, which was very unusual in those  
13 years.

14 We had no Workman's Compensation claims, Workers'  
15 Compensation claims, I'm sorry, in those years for any dust  
16 related disease. We had routine inspections of the plants  
17 with air sampling so that dust determination, the level of  
18 dust determination could be made. These were done by our  
19 Workers' Compensation carrier, ~~Aetna~~. They were done by  
20 the State of New Jersey Department of Health; they were  
21 done by Saranac laboratory, they were done by the  
22 Industrial Health Foundation in Pittsburgh, I  
23 believe. At that time it was called the Industrial  
24 Hygiene Foundation. And we made our own tests. That was  
25 most of the program. This had been going on before the warning  
26 flag came up even.

27 Q. So this had gone on before 1952?

28 A. Yes.

1 Q. And using 1952 as a cut-off, and I'm not  
2 suggesting that things changed after that, but just up  
3 until that time, there had been no Workers' Compensation  
4 claims associated with where the person was claiming there  
5 was a breathing problem associated with exposure to  
6 Kaylo?

7 A. That's true.

8 Q. And the sickness and absentee record did not  
9 indicate a disproportionate sickness and absentee rate  
10 based upon exposure to Kaylo?

11 A. It indicated no effect at all on the sickness  
12 rate.

13 ~~Q. Were these sickness and absentee records kept~~  
14 ~~by the Personnel Department or by you?~~

15 A. They were gathered by the Personnel Department  
16 and the original of the records, for example, would be  
17 placed in that individual's personal history folder at the  
18 plant, and copies of them would come to me in Toledo,  
19 and I would tabulate them.

20 Q. Was there some place on the form for an  
21 indication of the sickness disease or malidity that kept  
22 the person from work?

23 A. Yes. It was standard practice for the  
24 United States Public Health Service to gather  
25 information of this sort; all the -- their information,  
26 their misdemeanor history record, their sickness absence  
27 record, rather, covered only eight day and longer cases.  
28 We covered those cases, and also the one through seven day

1 cases. And on the form there was a space for diagnosis,  
2 is also three check places for general character of the  
3 disease, respiratory illness, digestive illness,  
4 non-respiratory and non-digestive. And as I say a place  
5 for the written out diagnosis.

6 Q. Was the information about the illness and  
7 whether it was respiratory, digestive or neither filled in  
8 by a medically trained person?

9 A. It was filled in by the nurse at the plant.

10 Q. Okay. And none of the records, at least up  
11 until 1952, demonstrated any effect as a result of  
12 Kaylo?

13 A. That's true.

14 Q. And up until 1952, as best you can recall,  
15 Berlin and Saryville had been in operation somewhere  
16 between six and 10 years? Is that correct?

17 A. Yes. Yeah.

18 Q. Now, did the sickness and absentee records  
19 program continue after 1952? Did the keeping of those  
20 records continue?

21 A. May I ask you, is '52 the end of the  
22 Saranac experiments?

23 Q. Yes, sir.

24 A. Not when we sold it to OCF.

25 Q. You sold it to OCF, I believe in '58.

26 A. Fifty-eight. After '52 we continued to keep  
27 those records, yes.

28 Q. I take it you stopped doing that when you sold

1 ~~the Kaylo business to OCF?~~

2 ~~A. Sure.~~

3 Q. Between 1952 and 1958, did you have any  
4 Workers' Compensation claims where the claim was made that  
5 a breathing problem was created by exposure to Kaylo?

6 A. No, sir.

7 Q. Did the air sampling at Berlin and  
8 Saryville take place from the time that the plants  
9 opened?

10 A. Yes.

11 Q. Up to and including 1958?

12 A. Yes.

13 Q. Did the inspections by the New Jersey  
14 Department of Health continue from the opening of those  
15 plants until the sale of the business to OCF?

16 A. They were not periodic inspections. They were  
17 repeat inspections but at irregular intervals.

18 Q. At what intervals were those inspections?

19 A. No regular intervals. When they wanted to come  
20 in and inspect the place.

21 ~~Q. Okay.~~

22 ~~A. Now, our inspections by the Workers'~~

23 ~~Compensation carrier were annual.~~

24 MR. CALLAHAN: This be a good point to take a break,  
25 Roman?

26 MR. SILBERFELD: As good as any, sure.

27 MR. CALLAHAN: One o'clock?

28 MR. SILBERFELD: One o'clock.

1 MR. BOGAN: Can we do 1:30, because some people have  
2 to eat lunch and check out of their hotel rooms, and it's  
3 going to be a little time.

4 MR. CALLAHAN: Okay.

5 MR. SILBERFELD: 1:30.

6 (Lunch recess held until 1:30 P.M.)

7 Q. BY MR. SILBERFELD: Mr. Hazard, are you ready  
8 to continue with your deposition this afternoon?

9 A. Yes, sir.

10 10 Q. Just before we broke for lunch you were telling  
11 us about the annual inspections conducted by your Workers'  
12 Compensation insurance company of the Berlin and  
13 Saryville plants. Do you recall that testimony?

14 A. Yes.

15 Q. Were those inspections conducted on an annual  
16 basis from the time those plants opened until the  
17 Kaylo division was sold?

18 A. Yes, they were.

19 Q. Were reports of any of those examinations or  
20 inspections prepared by the Workers' Comp. insurance  
21 company and circulated to the company?

22 A. Yes.

23 Q. Did they have a particular title?

24 A. For the reports?

25 Q. Yes, sir.

26 A. Well, I don't remember.

27 Q. In substance, what did the inspection reports  
28 contain?



1 A. They contained the results of air samples to  
2 determine how much dust was in the air, and they, I think,  
3 invariably they would also -- I know they had several times  
4 laboratory analysis showing the percent of asbestos in  
5 the total dust.

6 Q. I take it that these inspections were done by  
7 the technical group at Aetna?

8 A. Yes.

9 Q. To whom were they directed at Owens-Illinois?

10 A. They were directed to the Manager of the  
11 plant. Saryville or Berlin.

12 Q. Did you, in your capacity as the industrial  
13 hygienist for the company, obtain copies of these reports  
14 at regular intervals when the inspections were done?

15 A. Yes.

16 Q. Did you keep them in the records of your office  
17 at Owens-Illinois?

18 A. Yes.

19 Q. Have you had the opportunity since you were  
20 first contacted about the last deposition to see any of  
21 those reports?

22 A. No.

23 Q. Do you know if those reports are still in  
24 existence?

25 A. No, I don't know. I expect they are.  
26 Insurance companies very seldom throw things away.

27 Q. With regard to these reports, talking now about  
28 the Owens-Illinois copies of those reports, do you know,

1 If any of the Owens-Illinois copies are still in  
2 existence?

3 A. No, I don't.

4 Q. Was there any regular document retention policy  
5 at Owens-Illinois, say, in the period of 1942  
6 to 1958?

7 A. Well, not in my department. There may have  
8 been elsewhere in the company.

9 Q. Do you recall any instance in the same period  
10 of time where these reports of the Worker Comp inspections  
11 were destroyed or thrown out?

12 A. No.

13 Q. At any time during the years that Kaylo  
14 was being manufactured by Owens-Illinois, did the  
15 company, through your work, conduct any studies or  
16 observations of the application of Maylo in the field?

17 A. Installing Kaylo in the --

18 Q. Yes.

19 A. No.

20 Q. At any time while Owens-Illinois was  
21 manufacturing Kaylo, did you receive any studies which  
22 reported on the installation of Kaylo in the field and  
23 any health effects that might flow from that?

24 A. No, sir.

25 Q. To your knowledge, did any governmental entity  
26 conduct any survey of the health effects associated with  
27 the installation of asbestos containing thermal  
28 insulation products in general?

1 MR. HOCH: You asking for his recollection?

2 MR. SILBERFELD: Yes.

3 THE WITNESS: There was an elaborate study made by  
4 not a governmental agency, but the School of Public Health  
5 at Harvard, of installers of asbestos containing  
6 insulation.

7 Q. BY MR. SILBERFELD: Who were the authors of  
8 that study?

9 A. The authors were Fleischer, Walter Fleischer,  
10 and Phillip Drinker, who was my boss earlier, and two  
11 other, two co-authors.

12 Q. Other than Fleischer-Drinker, do you recall,  
13 during your years as the industrial hygienist, up until  
14 1958, any other surveys or studies of the health effects  
15 associated with the installation or application of asbestos  
16 containing insulation products?

17 A. No, I don't recall any others, but I have a  
18 feeling it was unnecessary to have any other, really,  
19 because Fleischer-Drinker was so thorough.

20 ~~Q. To your knowledge, in the same period of time,~~  
21 ~~up until 1958, did any of the trade or technical~~  
22 ~~organizations of which Owens-Illinois or you personally~~  
23 ~~were a member conduct any surveys of the health effects~~  
24 ~~associated with asbestos-containing thermal insulation~~  
25 ~~products?~~

26 MR. BERRY: In the installation thereof?

27 MR. SILBERFELD: Yes. I'm sorry. Such a long  
28 question.

MR. BERRY: Let him do it again, Bill.

Q. BY MR. SILBERFELD: During the years that you were involved in industrial hygiene up until 1958, to your knowledge, did any of the trade or technical organizations of which you or Owens-Illinois were a member conduct any surveys or studies into the health effects of the installation or application of asbestos-containing thermal insulation products?

A. I don't remember any such studies.

Q. Now, the information that was gathered by Owens-Illinois that you described to us this morning, namely the sickness and absenteeism reports, the absence of any Workers' Compensation claims, the dust counts that you personally conducted and the inspections by the Department of Health, and the Workers' Comp. carrier, at any time was any of that information made available to any of the customers of Owens-Illinois?

A. I don't recall that it was.

Q. We talked earlier this morning about epidemiology, and the establishment of cause and effect between some substance and a disease. Are you familiar with a concept called risk factors? Or risk ratios?

A. Risk ratio. No, that doesn't register.

Q. Are you familiar with a concept called relative risk factors?

A. Well, I can imagine what it means, but I'm not actually familiar as a technical term.

Q. What understanding do you have of what it means,

1 or what it might refer to?

2 A. That would compare two operations, materials,  
3 or exposures, that are not the same, but you can -- but  
4 they are -- it's a comparison between them.

5 Q. As in a controlled and exposed group? That  
6 sort of thing?

7 A. I would think so.

8 Q. Are there statistics that you're aware of, Mr.  
9 Hazard, that relate to the significance of an  
10 epidemiological connection based upon the number of people  
11 in a certain group? Do you know what I mean?

12 A. No, I don't quite follow you.

13 Q. I don't really know that I know what I mean.

14 In conducting an epidemiological survey, isn't it  
15 true that the incidence of disease is an important factor  
16 in determining whether or not there is a cause and effect  
17 relationship between the substance and the disease?

18 MR. HOCH: I'll put an objection on lack of  
19 foundation, lack of expertise.

20 MR. SILBERFELD: Okay. Go ahead and answer.

21 THE WITNESS: You mean for a given material?

22 MR. SILBERFELD: Yes, sir.

23 THE WITNESS: Yes. Yes, I would say so.

24 Q. BY MR. SILBERFELD: And isn't it also true that  
25 the higher the incidence of disease as a result of exposure  
26 to a given material, the higher the likelihood of a cause  
27 and effect relationship between the substance and the  
28 disease?

1 MR. HOCH: I have my continuing objection?

2 MR. SILBERFELD: Yes.

3 MR. HOCH: Thank you.

4 THE WITNESS: Yes, I think so.

5 Q. BY MR. SILBERFELD: Are you aware of any  
6 surveys or studies and statistics which discuss what  
7 incidence is necessary in a given substance disease  
8 experiment in order to establish cause and effect?

9 MR. CALLAHAN: The question is, were you aware of it?

10 MR. KAMALIA: Would you read that back?

11 (Record read.)

12 THE WITNESS: What incidence? I'm not sure-what that  
13 means.

14 MR. SILBERFELD: Okay.

15 Q. What I'm trying to get to is this, Mr. Hazard:  
16 Is there epidemiological information available which would  
17 assist us in determining the answer to the following  
18 hypothetical: If we had a thousand people exposed to a  
19 particular substance, and five of them got a disease as a  
20 result of the exposure to the substance, and 99,095 of them  
21 did not, what I'd like to know, is there anything in the  
22 literature that you're aware of or that you had experience  
23 with that would say that is not a significant factor of  
24 disease and, therefore, there is not a cause and effect  
25 relationship?

26 A. No, I don't know of anything like that. I do  
27 know that the purpose of industrial hygiene is to keep  
28 anybody from getting ill from a given exposure, and that is

1 the reason for the threshold limit value concept. That is  
2 supposed to be safe for everyone, every normal person. Not  
3 handicapped people. But I don't think that's exactly what  
4 you asked.

5 MR. SELMAN: Excuse me. I'd like to move to strike  
6 the answer as being nonresponsive.

7 Q. BY MR. SILBERFELD: My question really was  
8 whether you personally were familiar with statistical  
9 information which is commonly used, formulas which might  
10 commonly be used, to establish a connection between a  
11 particular substance involved and a disease based upon the  
12 numbers of people who got sick as a result of exposure to  
13 it. Are you aware of any such study?

14 A. No, I don't know of any.

15 Q. You're familiar, are you not, Mr. Hazard, with  
16 a concept called latency?

17 A. Yes.

18 Q. Would you explain what your understanding of  
19 that concept is?

20 A. As I understand it, when a person is exposed to  
21 some outside stress or chemical, with some types of  
22 materials he will have a fast reaction; with other  
23 materials it will take a long time before they show their  
24 effects. And this long time, as I understand it, is a  
25 latent period of that chemical.

26 Q. And -

27 A. A delayed reaction.

28 Q. It's true, is it not, that there is a latency

1 period for diseases associated with exposure to  
2 asbestos?

3 MR. HOCH: You're asking that question as of today?

4 MR. SILBERFELD: Yes.

5 MR. HOCH: His knowledge today.

6 MR. SILBERFELD: Yes.

7 MR. CALLAHAN: If you know.

8 ~~MR. BERRY: Rephrase the question, Roman.~~

129 9 Q. BY MR. SILBERFELD: You understand, as you sit  
10 here today, that there is a latency period associated with  
11 diseases which may be caused by exposure to asbestos?

12 A. Yes.

13 Q. As you sit here today, what is your  
14 understanding of what that latency period is for the  
15 disease called asbestosis?

16 A. I've read that it's some years.

17 ~~Q. Do you have any reasonable estimate for us as~~  
128 18 ~~to the number of years?~~

19 MR. HOCH: In his opinion or what he read?

20 MR. SILBERFELD: What his belief is today.

21 MR. HOCH: Based upon his readings?

22 MR. SILBERFELD: Based upon any --

23 MR. HOCH: You're getting into an opinion area where  
24 my objection would be. My objection will stand.

127 25 THE WITNESS: Well, as of today, my first reaction is  
26 I would go to some worthwhile reference book and see what  
27 the current investigators feel. I'm not -- I don't feel  
28 I'm up-to-date on the latest thing in asbestosis or



1 ~~asbestos~~

2 Q. BY MR. SILBERFELD: Well, when did you first  
3 learn about the concept of latency?

4 A. Oh, ~~gosh~~.

5 Q. Would this have been back in the thirties when  
6 you first heard about the disease?

7 A. Yes.

8 ~~Q. At that time what was the prevailing thought,~~  
9 if you will, as to what the latency period was as far as  
10 you can recall?

11 MR. HOCH: Objection; vague, ambiguous and  
12 unintelligent. For what? What are we talking about? What  
13 kind of context? What kind of environment?

14 MR. SIMON: He's talking about the latency period  
15 between initial exposure to asbestos fibers and the  
16 onset of disease or manifestation. Is that how you  
17 understand the question?

18 THE WITNESS: Un-huh.

19 MR. HOCH: Can we have a coherent question?

20 MR. SILBERFELD: You got it.

21 MR. HOCH: That was an addendum to a question.

22 MR. CALLAHAN: You better read that one again.

23 MR. BERRY: It's two different pieces.

24 Q. BY MR. SILBERFELD: At the time that you first  
25 learned of the disease process called asbestosis in the  
26 thirties, did you obtain an understanding at that time of  
27 what latency period was associated with asbestosis,  
28 meaning the time from first exposure to the substance and

1 the onset of disease or manifestation of symptoms?

2 A. Well, my recollection is that I thought it was  
3 a matter of some years.

4 Q. Can you define that any further for us?

5 A. Well, I just don't know. It's very fuzzy.

6 Q. Longer than 10 years?

7 A. No, not necessarily. But sometimes, maybe.

8 Q. Mr. Hazard, are you familiar with a term or a  
9 concept called the dose response relationship?

10 A. Yes.

11 Q. What is your understanding of that, sir?

12 A. The dose response for a given material depends  
13 on the concentration that the person is exposed to and the  
14 length of time that he's exposed.

15 Q. So as an example, if you have a higher  
16 concentration for a shorter period of time, that may equal  
17 a lower concentration for a longer period of time, depending on  
18 what the actual numbers are?

19 A. That's possible.

20 Q. That's essentially the concept of dose response,  
21 is it not?

22 A. Un-huh.

23 Q. Is that a yes?

24 A. Yes.

25 Q. With regard to asbestosis, is it your  
26 understanding that there is a cumulative effect to the  
27 injury; meaning, a continued exposure tends to worsen the  
28 effect of the disease, or not?

1 A. Well, it depends on what the exposure is. If  
2 the exposure is to a level that's lower than the threshold  
3 limit value, if you just said it doesn't apply, because  
4 that's what the threshold limit value was for. Now, when  
5 you get above the threshold limit value, with some  
6 materials there can be a cumulative effect.

7 Q. Okay. With regard to the health problems that  
8 you understood existed in the 1950's as a result of  
9 exposure to asbestos, we've already talked about  
10 asbestosis. Are there any other health effects that  
11 you understood to exist with regard the period of the  
12 1950's?

13 A. Well, in the 1950's we thought that  
14 the big effect of asbestosis was a simple one, shortness  
15 of breath. It was totally unlike silicosis caused by  
16 breathing free silica sand because there the effect is  
17 to make the person susceptible to tuberculosis, pulmonary  
18 tuberculosis. That's very serious.

19 But the only thing that we could identify in the case  
20 of asbestosis -- and this is all from reading because  
21 we never had any asbestosis. It's not my personal  
22 experience -- was the shortness of breath.

23 Q. But you kept abreast of what was going on in  
24 the literature in order to do the best job you could for  
25 the company?

26 A. Yes, sir.

27 ~~Q. Did you understand in the 1950's, Mr.~~ STACY  
28 Hazard, that there was a risk of cancer associated with

1 exposure to asbestos?

2 A. No.

3 Q. Had you read anything in the 1950's,  
4 be it a case report or an epidemiological survey, that  
5 suggested cancer as a possibility as a result of  
6 exposure to asbestos?

7 A. No, sir, we didn't connect the two. Or didn't  
8 read about a connection.

9 ~~Q. What is your understanding, Mr. Hazard, of the~~  
10 relationship between Owens-Illinois Glass Company and  
11 Owens-Corning Fiberglas between 1952 and 1958?

12 A. Well, in the early days, of course,  
13 Owens-Illinois and Corning glass works formed  
14 Owens-Corning Fiberglas, and at that time one of them  
15 had a third of ~~the~~ stock and a third was held publicly or  
16 not. Through the years, and I don't know when the date was,  
17 what part of 1958 -- or the 1950's -- the holdings  
18 of Owens-Illinois and of Corning glass works in this  
19 daughter company, OCF, diminished, so the connection  
20 between Owens-Illinois and OCF became less and less  
21 and less. And in the 1950's I would say that we  
22 regarded OCF as a completely separate company. We had  
23 no communication at my level between them, and they were  
24 just another company.

25 Q. Was there an industrial hygienist counterpart  
26 to you at OCF that you knew of between '52 and '58?

27 A. I didn't know of any.

28 Q. Well, there may not have been a person who had

1 the title of industrial hygienist. Was there somebody that  
2 you had at least intermittent contact with at OCF who  
3 dealt with health issues as you did?

4 A. No, I don't remember any such person.

5 Q. Are you aware, sir, that at some point in time  
6 Owens-Corning Fiberglas began to distribute Kaylo  
7 manufactured by OI?

8 A. Yes.

9 Q. Do you know when that was?

10 A. 58, I would say. 56.

11 Q. Was it just before the sale of the division to  
12 Owens-Corning Fiberglas, or many years before?

13 A. Oh, I misunderstood.

14 Q. I was talking about just a distribution  
15 agreement rather than the sale of the division.

16 A. I remember there was a distribution agreement,  
17 and I don't know when it was.

18 Q. In 1958 the Kaylo division was ultimately  
19 sold to Owens-Corning.

20 A. Yes.

21 Q. Between the period of 1950 to  
22 participate, let's say, did you know a man by the name of  
23 Edward Ames?

24 A. Yes.

25 Q. How long had you known Mr. Ames?

26 A. Well -

27 Q. If you can recall, sir.

28 A. I'm trying to dredge it up. He was the

1 director of public relations, I remember, when I got to  
2 know him.

3 Q. For what company?

4 A. OCF. And prior to that, it seems to me he  
5 worked for Owens-Illinois, but I don't -- he was in the  
6 publicity field, as I recall it, or advertising, or  
7 something of that nature. That's pretty fuzzy in my memory.

8 Q. Do you know a man by the name of Greggory?  
9 That's a last name.

10 A. I know the name but I don't believe I know the  
11 man.

12 Q. Do you know a Harold Boeschstein in those  
13 years?

14 A. Yes.

15 Q. Who was Mr. Boeschstein?

16 A. He was originally with Owens-Illinois -- in  
17 fact, beginning in the thirties, where he was -- he was  
18 Sales Manager at Owens-Illinois. And when OCF was  
19 set up eventually, I'm not sure when, he left  
20 Owens-Illinois and joined OCF, where he stayed for  
21 the rest of his career. He was the President of OCF, as  
22 I recall.

23 Q. During that same period, 1950 to '58,  
24 did you know a man by the name of John Black?

25 A. John Black. No, that doesn't register.

26 Q. How about Everett Shuman?

27 A. Yeah, I knew Ev Shuman.

28 Q. Who was Everett Shuman?

1 A. He was with Owens-Illinois as a Plant  
2 Manager for one of our Jersey plants. I don't know whether  
3 it was Berlin or just where it was.

4 Q. Have you had any contact with Mr. Shuman,  
5 say, in the last 12 months?

6 A. No, sir.

7 Q. Do you know a man by the name of Richard  
8 Bech?

9 A. Dick Bech?

10 Q. Yes, sir.

11 A. Yeah. Do you know him? The reason I ask is  
12 that there are a couple of Dick Becks, and the one I know  
13 is lame. He has a limp.

14 Q. I don't know.

15 A. I don't know if that's the one or not.

16 MR. SIMON: Tell you next week.

17 Q. BY MR. SILBERFELD: Who is the Richard Bech  
18 that you knew? Are you saying you knew several of them?

19 A. Well, I knew the names Richard Bech around that  
20 time. He was the only one I knew.

21 Q. Who was the one that you knew?

22 A. He worked for Owens-Illinois, and it seems  
23 to me he was in the accounting end of the business.

24 Q. How about John Viverberg? Does that name  
25 ring a bell?

26 A. The name rings a bell, but I don't know him.

27 Q. At any time up until 1958 when you were gathering  
28 this information about the Berlin and Saryville

1 plants, did you ever have occasion to share that  
2 information with anyone at Owens-Corning Fiberglas?

3 A. No.

4 Q. Did you ever discuss the work that you were  
5 doing on air samples and this human observation of the  
6 Berlin and Saryville plants with Mr. Shuman?

7 A. Well, as I said, I knew Ev Shuman, and I  
8 can't place just what capacity he was in when I did know  
9 him. It's possible that I talked something about dust  
10 counts with him.

11 Q. Do you recall ever discussing with Edward  
12 Ames the work done on behalf of your company by Saranac?

13 A. Discussing it with Edward Ames?

14 Q. Yes, sir.

15 A. I don't recall that.

16 Q. Do you recall discussing the results of the  
17 Saranac reports with Mr. Shuman?

18 A. No.

19 Q. As far as you can recall, Mr. Hazard, did  
20 Mr. Shuman ever discuss with you any work that he was  
21 doing with regard to substituting asbestos in the  
22 insulation products manufactured by your company?

~~23 A. No, I don't think he ever discussed it with me.~~

24 Q. Now, are you familiar with the name Dr.  
25 Schepers?

26 A. Yes.

27 Q. And when you first heard about Dr. Schepers,  
28 in what capacity was he functioning?



1           A.   Well, as I remember it, he came from South  
2 Africa. I think he did work in the mining industry over  
3 there. And when he came to this country, and I don't know  
4 why he came to this country, he gave some papers, one or  
5 two papers at some of these industrial hygiene or  
6 occupational medicine meetings. So I guess that's when I  
7 first saw him or -- I guess I heard of him before that.  
8 And then the next time was when he was at Saranac  
9 laboratory as the replacement for Vorwald, Dr.  
10 Vorwald.

11          Q.   Yes, sir.

12          A.   Yeah.

13          Q.   Now, I asked you earlier this morning whether  
14 you were familiar with the reputations of Dr. Gardner  
15 and Dr. Vorwald. Did you at some point become familiar  
16 with the reputation of Dr. Schepers?

17          A.   No, I didn't -- I didn't know him that well. I  
18 knew him from hearing him talk at meetings and from, as I  
19 recall, he was a co-author or author of some papers that I  
20 probably read. But I didn't have a very strong opinion of  
21 his technical ability at that time.

22          Q.   You mean you had no opinion one way or the  
23 other?

24          A.   Yeah.

25          Q.   One of the exhibits that we've identified here  
26 today is a Xerox of the published final report. Do you  
27 recall that document, sir?

28          A.   Yes.

1 Q. That was published in a journal in about 1955,  
2 do you recall that?

3 A. Yes.

4 Q. Okay.

5 A. Well, let's see. Fifty-five?

6 Q. I think the date on it is about 1955.

7 A. Is it? I don't recall the animal experiments  
8 at Saranac had been completed before he published that.  
9 Well, the date is on it, that's it.

10 Q. Okay. Do you recall being consulted by Dr.  
11 Schepers or anyone at Saranac prior to the publication  
12 of the final report?

13 A. As I remember it, we were not consulted. We  
14 wanted them to publish it. We wanted them to publish it  
15 very much. We wanted very much to have it published. But  
16 there was a delay, and we didn't see any draft of the paper,  
17 and finally it appeared. Kaylo was not mentioned in  
18 it. It was the chemical name that was used.

19 Q. As you just said, in the actual published  
20 report the name Kaylo does not appear, correct?

21 A. That's right.

22 Q. It talks of hydrous calcium silicate.

23 A. Yes.

24 Q. Notwithstanding the fact that the name  
25 Kaylo does not appear in the published report, there  
26 is no doubt in your mind that the product involved in that  
27 study is Kaylo, isn't that right?

28 A. Yes, that's the way I feel.

1 Q. Okay. And the published version that has  
2 Dr. Schepers's name on it is in fact the work that was  
3 conducted by Dr. Gardner and Dr. Vorwald earlier  
4 in the 1940's and the early 1950's?

5 A. I believe that's correct.

6 Q. To your knowledge, did Owens-Illinois have  
7 an understanding or an agreement with Saranac that they  
8 would have prior publication approval of any manuscript  
9 that went to press?

10 A. Not to my knowledge.

11 Q. Was there a feeling at Owens-Illinois when  
12 the article was published that they should have been  
13 consulted prior to the publication of the article?

14 A. We felt that this would be the usual practice,  
15 that the sponsor of the experiments, which was  
16 Owens-Illinois, would have some contact, not review of  
17 the draft, but at least know where it stood. And there was  
18 no such contact.

19 On the other hand, we were so glad to get it in print,  
20 but we didn't get too mad at him. Especially since it was  
21 a long delay before it did get in print.

22 ~~Q. Now, at some point in time there was discussion,~~  
23 was there not, Mr. Hazard, about the Melin Institute  
24 taking over the running of Saranac lab? Do you recall  
25 that?

26 A. Vaguely I recall it. I think there was some  
27 discussion of that.

28 Q. Okay.

1 A. They never did it, of course.

2 Q. Can you tell us who the Melin Institute was?

3 A. Well, Melin Institute is a very reputable  
4 research organization in Pittsburgh, part of the Melin  
5 foundation, and they used to have what they call fellowships in  
6 the Melin Institute. And one of these fellowships housed  
7 the Industrial Hygiene Foundation. That was in one of  
8 these Melin Institute fellowships. So Melin -- the  
9 Industrial Hygiene Foundation was sponsored by industry,  
10 industrial companies, for research and study in this field  
11 of industrial hygiene, and it was through this activity  
12 that Melin Institute was mentioned, I guess, as a  
13 possible successor for Saranac laboratory.

14 Q. As far as you recall today, what were the  
15 circumstances surrounding the possible takeover of  
16 Saranac by the Melin Institute?

17 A. I don't know.

18 Q. Do you recall anything about what was going on  
19 at Saranac that would occasion even a discussion of a  
20 takeover by Melin or anyone?

21 A. No. I don't remember -- or I didn't know any  
22 of those details. I did -- I do have a recollection that  
23 Saranac laboratory at that period was in hard financial  
24 times. And why that was, I don't know. Except they had  
25 these series of directors, and whether that involved  
26 Schepers directly or not, I don't know. But they were in  
27 hard times.

28 Q. Now, up through -- can you place that in time

1 for us?

2 A. Oh, gosh.

3 Q. Are we talking middle 1950's?

4 A. Probably late 1950's. I thought that  
5 when that Schepers, the Saranac paper was published,  
6 that Saranac laboratory was in pretty good shape. I  
7 just assumed that. I didn't know the details. And when  
8 they became hard up, the organization, from a financial  
9 standpoint, I don't know when it was. I'd say late  
10 1950's.

11 Q. Okay. Did you personally ever participate in  
12 an effort to have Dr. Schepers replaced at Saranac  
13 laboratory?

14 A. Have him replaced?

15 Q. Yes.

16 A. No.

17 Q. Did you know at any time that there was a  
18 movement afoot to have Dr. Schepers replaced at  
19 Saranac laboratories?

20 A. Well, I certainly didn't know it at that time.

21 Q. Have you heard of that since?

22 A. I've heard of it since.

23 Q. Okay. When did you hear of it since?

24 A. Well, to be honest with you, it was when this  
25 whole Kaylo thing came up. Two years ago.

26 Q. Two years ago. How did you hear of it?

27 A. I don't know. Somebody told me. I don't know  
28 who. Somebody told me.

1 Q. What did they tell you, in substance?

2 A. Well, just about what you've said; that there  
3 was a movement to replace Dr. Schepers. I don't know  
4 who told me or what the movement was about.

5 Q. Do you know the reason for it?

6 A. No.

7 Q. Do you have any personal opinion as to any  
8 reason somebody might have for removing Dr. Schepers or  
9 seeing that he was removed?

10 A. The only thing I can read into it is that  
11 Saranac laboratory might have been on hard times, which  
12 ties in with the rumor that the Melin Institute was in  
13 some negotiation for the laboratory. And that's about all

~~14 I know.~~

~~15~~ 15 Q. While you were the industrial hygienist for  
16 Owens-Illinois, did you ever recommend that a warning  
17 label of any type be used on Owens-Illinois products?

~~18~~ 18 A. No.

19 ~~MR. SILBERFELD: Let's go off the record a second.~~

20

21 EXAMINATION

22

23 BY MR. SIMON:

~~24~~ 24 Q. Mr. Hazard, you maintained a file containing  
25 the results of the Saranac lab studies; is that correct?

26 A. Yes.

27 Q. When the Kaylo division was sold to  
28 Owens-Corning in 1958, what is your understanding of

STOP

1 what became of your file or files dealing with the  
2 Kaylo studies?

3 A. The files, my files, relating to Kaylo  
4 were packed up in cartons Friday afternoon by my girl and  
5 me, and they were carried over by the janitors to  
6 Owens-Corning's office. And that's all I know about  
7 what happened. I mean, what else there was.

8 Q. Do you know that to be a fact, sir?

9 A. Yes.

10 Q. Did your files include all of the interim  
11 reports as well as the final report issued by Saranac?

12 A. Yes.

13 MR. SIMON: Thank you.

14 MR. SILBERFELD: The last thing I have is yesterday,  
15 Mr. Hazard, we took Mr. Ames' deposition, and one of the  
16 documents he produced was this document here that's been  
17 previously marked as Exhibit 25 to Mr. Ames' deposition.  
18 I don't want to remark it again.

19 Q. Let me show it to you and ask if you recognize

20 A. Oh, yes, I do.

21 MR. HOCH: Roman, would you refresh our recollection?

22 MR. SILBERFELD: That's the excerpt of the transcript  
23 of Mr. Hazard's speech to the Rhode Island group.

24 MR. HOCH: Thank you.

25 THE WITNESS: I remember it.

26 MR. SILBERFELD: You remember it, sir.

27 THE WITNESS: Yes.

28 Q. BY MR. SILBERFELD: What was the occasion for

1 the talks or the remarks that you gave to the Rhode Island  
2 Industrial Health Institute? Was there an annual meeting  
3 or quarterly meeting or something?

4 A. Well, I don't remember. It was, I'd say, an  
5 annual meeting. It certainly wasn't quarterly. And I am  
6 sure they had written to me and asked me to give a talk.  
7 But outside of that, I don't have any vivid recollection.  
8 I remember this because it always caught my eye, I wondered  
9 why a reprint from that journal appeared on yellow colored  
10 paper.

11 MR. SILBERFELD: Probably wasn't yellow to start with.

12 A. It was. Usually it's on white paper.

13 Q. This, as I understand it, is an excerpt from a  
14 longer speech or set of remarks.

15 A. Well, that I don't remember. It says excerpt --

16 Q. Okay.

17 A. -- I believe, doesn't it?

18 Q. Yes.

19 A. But I don't know how much longer the original  
20 was.

21 Q. Did you personally do the research for the  
22 statements that are contained at least in the excerpt?

23 A. Well, I'd have to see the excerpts.

24 MR. SILBERFELD: Let's go off the record a minute.

25 (Discussion held off the record.)

26 MR. SILBERFELD: Back on the record.

27 Q. Mr. Hazard, during the break did you have an  
28 opportunity to look at that excerpt from your remarks to



1 the Rhode Island Industrial Hygiene Institute?

2 A. I looked at the last, I think there were four  
3 numbered paragraphs at the end.

4 Q. I believe my question before we got off during  
5 the break was whether or not you personally conducted the  
6 research supporting the statements made in that excerpt.

7 A. Well, I didn't read the whole thing. I looked  
8 at these four items here.

9 Q. Those four items are what --

10 A. The --

11 Q. Are they the conclusion?

12 A. The following points might well be discussed  
13 with employees when they are hired and periodically  
14 afterwards. It doesn't say they are conclusions. These  
15 are points to be discussed when people are hired who work  
16 with the glass fiber.

17 Q. Did you personally argue those remarks as  
18 opposed to deliver them even though somebody else may have  
19 written them? Did you write those remarks?

20 A. I think I wrote them, yes.

21 Q. Thank you.

22 Now, Mr. Callahan has been good enough to produce for  
23 us this box of three by five cards and notes. Do you  
24 recognize the box?

25 A. I do.

26 Q. Would you tell everyone what the box is?  
27 Consists of?

28 A. Well, not the box itself, but the notes are

1 notes that I made when I was asked to give a talk on some  
2 subject. They are not verbatim. They are notes, just to  
3 jog my memory.

4 Q. They have been previously referred to in  
5 another deposition as speech cards.

6 A. Okay.

7 Q. Is that a fair characterization of them?

8 A. Yes.

9 Q. And there are various subject headings here,  
10 Mr. Hazard. Let me just show you one that says, "AIHA"  
11 on it, referring to the American Industrial Hygiene  
12 Association?

13 A. Yes.

14 Q. Were these heading tabs put on by you as you --

15 A. Yes.

16 Q. -- collected the cards?

17 A. Yes.

18 Q. Also, at least on some of these stacks that  
19 have rubber bands around them and have these little  
20 identifying tabs, there are little yellow pieces of paper  
21 stuck in them that says, "Post 1958" or "Pre 1958," in  
22 handwriting. Do you know who created those little slips of  
23 paper?

24 MR. CALLAHAN: If you know.

25 THE WITNESS: I don't know. Do you have any other of  
26 those?

27 MR. SILBERFELD: Sure. Here is another one.

28 THE WITNESS: No, I don't know. Frankly, it doesn't

1 look like my writing to me.

2 MR. SILBERFELD: Okay.

3 Q. Have you had a chance to look at this box today?

4 A. No.

5 Q. Would you take a look for a minute. In looking  
6 at it, tell me if there are any major subject headings of  
7 cards that you believe are missing.

8 A. Does anyone know where Penington, New Jersey  
9 is? Penington.

10 MR. BERRY: Yes, Bill.

11 THE WITNESS: If you're interested to note, that  
12 these are speech cards for a talk I gave before the  
13 Penington Lions Club in 1944.

14 Q. BY MR. SILBERFELD: Speaking of the Penington Lions Club,  
15 what's the ceiling made of -- no.

16 THE WITNESS: I thought there were about an equal  
17 number of cards based on trips, routine trips that I made  
18 to Owens-Illinois plants. And when you asked me if all  
19 those speech cards were there, I don't see those trip  
20 speech cards. I don't know where they are.

21 Q. BY MR. SILBERFELD: How did you keep or  
22 catalogue these cards during the time that you were  
23 employed at Owens-Illinois?

24 A. Pretty much the way they are now.

25 Q. In a box of this kind?

26 A. No. No. They were in a file drawer.

27 Q. File drawer.

28 A. But if they related to the American

1 Industrial Hygiene Association, why, I'd have those in a  
2 group.

3 Q. As they are here?

4 A. Yes. If it was the Industrial Health  
5 Foundation, I would have those in a group. Or in the case  
6 of plants, I'd have all the cards for a given plant in a  
7 group.

8 Q. And you believe that there is probably an equal  
9 number of cards to what's existing here that had to do with  
10 trips you made to various OI plants?

11 A. Yes, that's my recollection. About the same  
12 number.

13 Q. Were those trip report cards kept in the same  
14 manner as these were kept in a file drawer somewhere?

15 A. Yes, sir.

16 Q. Do you know what's become of those cards?

17 A. I don't know.

18 Q. Do you know how it happened that these  
19 particular cards managed to get from the file drawer at  
20 OI to this table today?

21 A. I was wondering that, and I don't know.

22 MR. SILBERFELD: I don't have anything further, other  
23 than I'd like to talk to Mr. Callahan, probably off the  
24 record, about some procedure for copying these. We can do  
25 that at the end.

26 MR. CALLAHAN: All right.

27 MR. SIMON: Just a couple questions, Mr. Hazard.

28

FURTHER EXAMINATION

BY MR. SIMON:

Q. As a member of the Industrial Hygiene Foundation, did OI receive a publication known as the IHF Digest?

A. Yes.

Q. Was that routinely circulated to you?

A. Yes.

Q. Did you review it each month?

A. When time permitted, yes.

Q. That publication contained abstracts of new publications concerning the industry?

A. Yes, sir

Q. Including medical engineering, chemical and toxilological topics?

A. Yes.

MR. SIMON: Thank you. That's all I have.

MR. BOGAN: I've got several questions.

MR. BERRY: Joe, you want me to go first or do you want me to do my act?

MR. BOGAN: Doesn't matter to me. Let me go ahead and we may be able to wrap it up a little bit quicker.

EXAMINATION

BY MR. BOGAN:

Q. Mr. Hazard, I represent Owens-Corning

1     Fiberglas in the litigation. We appreciate your bearing  
2     with us today under all the questioning.

3             I want to go back for a moment to some testimony you  
4     gave a few minutes ago regarding the Kaylo files which  
5     you said were packed in a carton on a Friday afternoon and  
6     carried over by janitors to Owens-Corning Fiberglas. Do  
7     you recall that?

8             A. Yes. I remember assisting with the packing of  
9     them. And I did not actually see the janitors pick them up  
10    because we went home at 4:30 and they picked up the files,  
11    these files and other files after the building was empty.  
12    But it was my impression that they were carried over to  
13    Owens-Corning's offices by the janitors.

14            Q. As far as your own knowledge is concerned, you  
15    don't know one way or the other where they were carried; is  
16    that a fair statement?

17            A. Yes.

18            Q. I want to show you a document I've marked  
19    Defendant's 1, and ask you to take a moment to leaf through  
20    it. It's about four or five pages in length. Familiarize  
21    yourself with it. It is a cover memo and a draft pamphlet  
22    dated December 9, 1952. The cover memo is to Mr. George E. White  
23    from Mr. Curtiss W. Howard on the Owens-Illinois Glass Company  
24    memo stationery, I believe.

25            (Whereupon Defendant's 1 was marked for  
26    identification at this time.)

27            MR. SIMON: That will be Defendant's A.

28            MR. BOGAN: He called it Defendant's 1.

1 MR. SILBERFELD: Maybe you could identify the rest of  
2 them for us.

3 MR. BOGAN: There is only a couple of others.  
4 Defendant's 2 is -- appears to be a memorandum dated 6/12/56, -  
5 to W. J. Stewart, signed by W. E. H., with no subject  
6 title on it.

7 Defendant's 3 is a report of some 24 pages in length,  
8 entitled "Hydrous calcium silicates," looks like Roman  
9 Numeral V, "physical and chemical properties of Kaylo  
10 products." And there is a handwritten date in there of  
11 October 13, 1952.

12 (Whereupon Defendant's Exhibits 2 and 3 were marked  
13 for identification at this time.)

14 THE WITNESS: I remember this draft.

15 Q. BY MR. BOGAN: There is some acclaim given to  
16 you on the front page that says in paragraph two, "Considerable  
17 time has been spent on this subject with Dr. Shook and  
18 Bill Hazard, both of whom made major contributions."

19 Are you familiar with the draft itself, the draft pamphlet?

20 A. I know I've read it.

21 Q. I want to turn your attention to page four and  
22 ask you, if you would, sir, to read the short paragraph  
23 that's stated there under "general conclusions." Would you  
24 read it out loud, if you would?

25 A. Yes. "The general conclusions: Experience in  
26 the factories and field and research findings have proven  
27 that normal handling of Kaylo products is safe from a  
28 health standpoint. The usual precautionary measures taken

1 for any product containing asbestos are needed in a  
2 continued exposure to heavily concentrated Kaylo dust."

3 Q. All right. Mr. Hazard, did that statement  
4 represent your professional opinion<sup>is</sup> as an industrial  
5 hygienist of the product Kaylo on or about December 9,  
6 1952?

7 A. Very briefly, it did, yes.

8 Q. Did that statement represent your professional  
9 opinion as an industrial hygienist of the product  
10 Kaylo in the Spring of 1958 when the Kaylo plant  
11 was sold to Owens-Corning Fiberglas?

12 A. Yes.

13 Q. Did that statement you just read represent, to  
14 your knowledge, the position of Owens-Illinois related  
15 to the product Kaylo on or about ~~December~~<sup>is</sup> 9, 1952?

16 A. Yes.

17 Q. And the same question as far as your knowledge  
18 of the position of Owens-Illinois related to the product  
19 Kaylo on or about the spring of 1958 when the  
20 Kaylo plant was sold to Owens-Corning Fiberglas?

~~21~~ A. Yes.

22 Q. Now, if you would, I'm going to show you an  
23 exhibit previously marked number 73, which is the --  
24 appears to be a letter that you wrote to Ira Brought,  
25 dated June 12, 1956. I think you've indicated earlier  
26 that you're at least familiar with that letter.

27 A. Yes, sir.

28 Q. I want to show you Defendant's 2, which is a



1 memorandum apparently by W. E. H., I assume that's you, to  
2 Mr. W. J. Stewart of the same date as the letter to  
3 Ira Brought, and have you take a look at that for a  
4 moment.

5 A. Yes.

6 Q. From reading the memorandum -- incidently, did  
7 you author this memorandum?

8 A. Yes

9 Q. Those are your initials at the bottom?

10 A. W. G. H.

11 Q. G. H., excuse me. In reading this memorandum,  
12 does it refresh your recollection that the letter we've had  
13 marked as Exhibit 73 is somehow associated with that  
14 particular memorandum?

15 A. Yes. It's the same Mr. Ira Brought that  
16 they both relate to.

17 Q. Do you know who Mr. Ira Brought was  
18 employed by on or about June 12, 1956?

19 A. No, I don't know. I have a feeling that he may  
20 have been employed by Toledo Edison, because his office is  
21 in the Edison building.

22 Q. Reading the first paragraph of Exhibit 73,  
23 "ttached is a reprint of the article entitled, 'The Effect  
24 of Inhaled Hydrous Calcium Silicate Dust on Animal Tissue AMA  
25 Archives of Industrial Health,' pages 338 to 360,  
26 1955, what you asked for on the phone this morning." Do  
27 you know why Mr. Brought would have been requesting such  
28 a reprint?

1 A. No, I don't know why he was. And I never met  
2 him, talked with him on the phone and wrote to him.

3 Q. Have you ever received any information that  
4 Mr. Brought was employed by Owens-Corning Fiberglas  
5 on or about the date of this letter?

6 A. I don't remember any such information.

7 Q. If you would, would you read into the record  
8 the paragraph starting with "the reaction was milder."

9 A. "The reaction was milder than what would result  
10 from breathing dust of the commercial product 65 percent  
11 mag asbestos workers and applicators are exposed to  
12 higher concentrations of asbestos dust during their  
13 normal work than would result from handling Kaylo."

14 Q. Could that have been 85 percent mag?

15 A. Yes, it could have. Yes, it is.

16 Q. This was, I take it, your statement that you  
17 made in this letter on that date?

18 A. Yes.

19 Q. As of that time, being an industrial hygienist  
20 and working for Owens-Illinois, was it your belief that  
21 that statement was accurate?

22 A. Yes.

23 Q. As of the sale of the Kaylo plant to  
24 Owens-Corning Fiberglas in the Spring of 1958, had you  
25 changed your mind regarding the comments you made in the  
26 letter that you've just read into the record?

27 A. No.

28 Q. Finally, I'm going to show you a somewhat

1 lengthy report which we've identified as Defendant's 3, and  
2 ask you simply to leaf through it and see if it appears  
3 familiar to you.

4 A. I've read it. I mean, I'm sorry, I thumbed  
5 through it.

6 Q. You thumbed through it. Mr. Hazard, have you  
7 seen that document before?

8 A. I don't remember.

9 Q. Are you familiar with the general contents  
10 contained therein?

11 A. Not very familiar. There is one thing that  
12 makes me think that I haven't seen it, because -- there is  
13 one thing that makes me think I haven't seen it, because  
14 towards the end here they talk about "... the hazards of  
15 such dust to health have been investigated by the  
16 Trudeau laboratories at Saranac lake, New Jersey."  
17 If anything stuck in my mind, I think that would. There is  
18 no Saranac lake, New Jersey, where this work was  
19 done.

20 Q. Do you know who the author of that document was?

21 A. No.

22 Q. It appears to be -

23 A. Well, prepared by, here it is here. G. L. -

24 Q. Is that Kalousek?

25 A. It looks like it.

26 Q. Do you know who that individual is or was?

27 A. No, sir.

28 Q. Do you know any of the other names shown on

1 page two of that document?

2 A. W. C. Taylor approved it. I heard his name.  
3 I didn't know him. And J. W. Hackett noted it, and I  
4 knew Jim Hackett. He was the Director of Research,  
5 seems to me, at one point in Owens-Illinois.

6 Q. Does this appear to you to be -- have you ever  
7 seen a similar report?

8 A. Yes. The title page was the page they used,  
9 the cover of all their research reports.

10 Q. Research reports?

11 A. Yes.

12 Q. Directing your attention to page 22, the second  
13 paragraph, notwithstanding the misplaced geography of  
14 Saranac, would you read that second paragraph into the  
15 record, please.

16 A. "The dust of Kaylo consists of a hydrous  
17 calcium silicate and asbestos, and the hazards of  
18 such dust to health have been investigated by the  
19 Trudeau laboratories at Saranac lake, New Jersey.  
20 The hydrous calcium silicate is harmless and the  
21 asbestos manifested the usual effect of this mineral.  
22 The actual hazard to health of those handling Kaylo wasv  
23 considered to be small."

24 Q. As of October of 1952, did you agree with the  
25 statement you just read?

26 A. Let me see the -- the first part of the  
27 sentence, the "hydrous calcium silicate is harmless," I  
28 agree with. "The asbestos manifested the usual effect of

1 this mineral," that is a very indefinite statement.

2 Q. Indefinite from what standpoint?

3 A. It does not point out that the exposure to  
4 asbestos from handling Kaylo was minimal.

5 Q. Well --

6 A. True, a big cloud of asbestos dust, you  
7 know what the usual effects are.

8 Q. How about the last sentence which states "the  
9 actual hazard to the health of those handling Kaylo  
10 was considered to be small." Did you agree with that  
11 statement in 1952?

12 A. Well, small -- it was small all right.

13 Q. And your professional opinion as an industrial  
14 hygienist, you would agree that the actual hazard to the  
15 health of those using Kaylo as of 1952 was considered  
16 to be small?

17 A. Considered to be small? Yes.

18 Q. And did your opinion change in that time until  
19 the plant was sold to Owens-Corning Fiberglas in 1958?

20 A. No.

21 Q. And the last sentence relating to the actual  
22 hazard to the health of those handling Kaylo  
23 considered to be small, was it your belief that in 1952,  
24 through 1958, when the plant was sold to Owens-Corning,  
25 it was the position of Owens-Illinois that that  
26 statement was correct?

27 A. That the hazard was small?

28 Q. Right.

1 A. Yes.

2 MR. BOGAN: Thank you very much, Mr. Hazard.

3 MR. SIMON: Anybody else have questions?

4 MR. HOCH: I do.

5 MR. BERRY: Why don't you go ahead and then we'll see  
6 what the time is.

7  
8 EXAMINATION

9  
10 BY MR. HOCH:

11 Q. Mr. Hazard, can you hear me?

12 A. Yes, sir.

13 Q. My name is Steven Hoch, Mr. Hazard, I represent  
14 Johns-Manville in this litigation.

15 I want to make it clear that in the -- in your  
16 training and experience as an industrial hygienist you do  
17 not hold yourself out to be a medical expert; is that  
18 correct?

19 A. That's correct.

20 Q. And when it comes to the point in industrial  
21 hygienist analysis of a situation, when he wants to know  
22 about a disease and a disease process he would rely upon  
23 physicians for that information, correct?

24 A. Yes.

25 Q. Discussing, if we can -- I apologize, we may  
26 have to jump around because I've taken some notes as the  
27 deposition has gone on and I want to try to get it all tied  
28 up so I may be jumping around subjects.

1 In discussing the reports and the ongoing work that  
2 was done at Saranac sponsored by Owens-Illinois, you  
3 were involved in it, as I understand it, from the time you  
4 came back from your service with the Public Health  
5 Department up until the report was published, correct?

6 A. Yes.

7 Q. During that time period, which would be about  
8 1946 until 1955, was there, in your impression as an  
9 industrial hygienist, a significant problem with  
10 tuberculosis in this country?

11 A. I don't know how to answer that because  
12 tuberculosis has always been a problem, and, you know,  
13 what's significant to --

14 Q. Okay. At some time in the 1950's, is it  
15 correct that there was a drug that was discovered and used  
16 as a successful treatment to prevent and cure tuberculosis?  
17 Are you familiar with that?

18 A. To help cure it, yes.

19 Q. As a result of that -- strike that.

20 Saranac labs, prior to the invention of that drug,  
21 was primarily in the business of investigation into  
22 tuberculosis?

23 A. Yes. Just one thing: The institution was  
24 founded as a tuberculosis sanitarium, and the Saranac  
25 laboratory was a small adjunct of the sanitarium, which was  
26 a very large hospital.

27 ~~Q. I understand that. In the reports as we've~~  
28 ~~looked at them here today that were marked as exhibits,~~

1 there was constant reference made to a possibility of  
2 causing tuberculosis.

3 A. Yes.

4 Q. Is that correct?

5 A. Yes.

6 Q. There was a significant problem in your mind,  
7 was there not, sir, that the ingredients that went into  
8 making Kaylo contained substances which could cause or  
9 increase a risk of tuberculosis; is that correct?

10 A. Well, one ingredient, yes.

11 Q. Which ingredient was that?

12 A. The -- may I change that?

13 Q. Sure.

14 A. I remember none of the ingredients as fostering  
15 tuberculosis. =

16 Q. That was the outcome of the report, correct?

17 A. Well, I'm not sure what you mean. That was  
18 common knowledge. We knew what was in Kaylo, and we  
19 knew what the effect of each ingredient was.

20 Q. The reports by Dr. Vorwald, do they not, sir,  
21 discuss the fact that tuberculosis was not --

22 A. I see what you mean.

23 Q. You understand what I'm saying?

24 A. Yes.

25 Q. He was -- the Saranac studies, in part,  
26 were to determine whether or not anything in Kaylo  
27 would increase the risk of tuberculosis? That was one of  
28 the things you wanted to find out?



1 A. That was one of the things they investigated,  
2 yes.

3 Q. One of the other things you wanted to find out,  
4 if any of the products or substances used in Kaylo  
5 would cause silicosis?

6 A. Yes.

7 Q. Now, these reports and the studies done by  
8 Saranac prior to Dr. Schepers publishing his article,  
9 are you aware of the distribution of any of those reports  
10 outside of Owens-Illinois?

11 A. Are you speaking of the reports on the animal  
12 experiments?

13 Q. Right, the reports that we have here in  
14 exhibits.

15 A. Yeah.

16 Q. In the 1 through 74 category.

17 A. I'm not aware of their being distributed  
18 elsewhere.

19 Q. Was it the custom and practice in the period of  
20 time that these studies and reports were going on that the  
21 individuals at the Saranac lab would be bound by some  
22 confidentiality not to release this information to anyone  
23 else other than the appropriate people at Owens-Illinois?

24 A. I don't know of any such agreement.

25 Q. My question to you is, were you aware that was  
26 the custom at the time?

27 A. Yes, I think in some instances it was, when the  
28 sponsor was paying the full cost of the investigation.

1 Q. That, in fact, was what Owens-Illinois was  
2 doing, correct?

3 A. Yes, as far as I know.

4 Q. Let me jump up to Dr. Schepers. Are you  
5 aware that before his tenure at the Saranac labs he was  
6 affiliated with another institution, and his affiliation  
7 terminated as the laboratory, I think it was a hospital,  
8 I'm not sure, went under, went financially broke?

9 A. No, I was not aware of that.

10 Q. Do you have any recollection or knowledge, sir,  
11 that the reason Dr. Schepers -- strike that. Do you  
12 have any recollection or knowledge, sir, that the reason  
13 there was a, I think in your words, a move to get Schepers  
14 out, which was something you heard about two years ago, had  
15 anything to do with the fact that the Melin Institute  
16 felt that he couldn't administer Saranac labs?

17 MR. SIMON: Let me object to that as misstating prior  
18 testimony and lacking foundation. Go ahead, sir.

19 THE WITNESS: No, I was not aware of that.

20 Q. BY MR. HOCH: Now, when we talked about the  
21 actual animal studies that went on at Saranac lab, I  
22 believe you indicated that the animals used were exposed to  
23 high levels of dust over their lifetime, correct?

24 A. Approximately, yes.

25 Q. These high levels of dust, to the best of your  
26 recollection, were in the area in excess of 150 million  
27 particles per cubic foot?

28 A. A hundred and fifteen?

1 Q. Fifty, 50.

2 A. I had in mind 115.

3 Q. That was a low point, correct?

4 A. No.

5 Q. That was an average?

6 A. 110, 112, 115, as I recall.

7 Q. To the best of your recollection, were any of  
8 the dust counts ever done at any of the Owens-Illinois  
9 facilities that you were aware of, did they ever reach that  
10 level?

11 A. Oh, no. Nowhere near it.

12 Q. Was there any employee of Owens-Illinois  
13 that you were aware of who would be exposed to asbestos  
14 dust, exposed for eight hours a day, five and a half days a  
15 week, for his entire life?

16 A. No.

17 Q. And it was your testimony that in the review of  
18 X-rays and physical examinations and Workers' Compensation  
19 reports and illness reports, there were no employees of  
20 Owens-Illinois who worked with asbestos who came  
21 down with any pulmonary problem that you became aware of at  
22 all?

23 A. Nothing due to asbestos.

24 Q. A cold or flu sometimes?

25 A. Yes.

26 Q. Okay.

27 Q. I don't mean this to sound facetious, sir, but  
28 did the animals used in the Saranac studies, were they

1 given time off for lunch and to remove themselves from dust  
2 exposure?

3 A. It's my recollection that they were in steadily  
4 for eight hours, or shift.

5 Q. This was an enclosed room?

6 A. Yes.

7 Q. With no ventilation. Strike that. This was an  
8 enclosed room whose purpose it was to keep that cloud at a  
9 fairly constant level?

10 A. That's correct.

11 Q. There weren't any windows that you're aware of  
12 or exhaust fans?

13 A. Not that I'm aware of. I suppose there was air  
14 movement through the thing. It was to keep the  
15 concentrations at a high level.

16 Q. You referred to the Fleischer-Drinker study,  
17 sir. Can you tell us, in your own words, what was your  
18 understanding as an industrial hygienist as to the outcome  
19 of that study? What did it show or tend to show?

20 A. They examined and studied insulation workers,  
21 mostly on board ship, but in shipyards, to see if they  
22 contracted asbestosis. Some of the insulation material  
23 was very high in asbestos and some was fairly low, too.  
24 The same as Kaylo is.

25 And they found in a group -- I've forgotten how many --  
26 a total of 100 persons were involved, were studied; I think  
27 in the group three persons showed signs of asbestosis.

28 But these persons had long prior exposures as insulators,

1 and they -- so that their lifetime dose had been a long  
2 period. The dust level to which insulators were exposed  
3 was below 3 million asbestos particles per cubic foot  
4 of air, on the average. So their conclusion was that  
5 asbestos insulators did not have a dangerous level of  
6 exposure to asbestos, first as shown by their medical  
7 or rhentological findings, and second by the levels of dust  
8 which they were working in which were below the average TLV  
9 on asbestos.

10 Q. Does the date of 1948 coincide with your  
11 understanding when the Fleischer-Drinker study was  
12 published?

13 A. It sounds about right.

14 Q. From the period of which the Saranac  
15 studies were going on, which encompassed the year 1948,  
16 what was the TLV for asbestos?

17 A. Five million particles per cubic foot of air.

18 Q. Was that a TLV that was recommended by the  
19 United States Public Health Service?

20 A. Well, it was set up by the American Conference  
21 of Governmental Industrial Hygienists, and it was adopted  
22 by the United States Public Health Service.

23 Q. Part of Fleischer-Drinker's work indicated  
24 that the insulators had an exposure below that?

25 A. Yes.

26 Q. And part of Fleischer-Drinker's work  
27 indicated that the insulators were constantly changing  
28 their environment, they would come into a room, they'd work,

1 leave a room, things like that?

2 A. I don't remember that that was in the paper,  
3 but it could have been.

4 Q. That coincides with your understanding of what --

5 A. Yes.

6 Q. -- the work would be?

7 A. Yes.

8 Q. Do you have a recollection, sir, of what the  
9 reputation of Dr. Fleischer and Dr. Drinker were in  
10 and around that period of the publishing of that paper?

11 A. They have the highest reputation.

12 Q. You had a chance to work with Dr. Drinker  
13 during the war?

14 A. Yes. And Walter Fleischer was down the hall in  
15 the same department as Drinker.

16 Q. Was their reputation more than just a local  
17 reputation?

18 A. Oh, yes.

19 Q. Nationwide?

20 A. Yes.

21 Q. What was their field of -- the real field of  
22 endeavor?

23 A. Drinker's field, I guess primarily was the  
24 effects and the control of industrial dust. Now, he made  
25 perhaps an alarming reputation, more exciting reputation,  
26 because he was the one -- he was one of the two co-inventors  
27 of the iron lung which was used in the treatment of --  
28 what's the name of it -- polio. And he got a national

1 reputation out of that invention.

2 Q. The threshold limit value for asbestos that  
3 was recommended by the American Conference of Governmental  
4 Industrial Hygienists, was that something that was accepted  
5 and used by Owens-Illinois?

6 A. Yes.

7 Q. Was it accepted and used, as far as you were  
8 concerned and had knowledge of, by the industrial medical  
9 community?

10 A. Yes.

11 ~~Q. By that I mean, the industrial medical~~  
12 ~~community at large, the entire nation.~~

13 A. Yes.

14 Q. You discussed latency period a little while ago.  
15 Do you recall whether or not the Fleischer-Drinker  
16 report addressed the latency period?

17 A. What did he say?

18 Q. Do you recall whether the Fleischer-Drinker  
19 report addressed the latency period?

20 A. Oh. Yes, I believe it did.

21 Q. Did they mention the years of exposure that  
22 some of these men had?

23 A. Yes.

24 Q. Are you familiar with Dr. Selikoff's work  
25 generally?

26 A. Generally, but not in detail.

27 Q. Are you familiar with his study published in  
28 and around 1964 in the New York Academy of

1 Science?

2 A. Yes.

3 Q. That was an epidemiological study, was it not?

4 A. Yes

5 Q. It dealt with a large cohort of insulators who  
6 Dr. Selikoff followed and took histories of for a good  
7 number of years?

8 A. Yes.

9 Q. Isn't it correct that, as far as your opinion  
10 as a professional industrial hygienist, sir, that Dr.  
11 Selikoff's paper was really the first paper to put a time  
12 span on this latency period?

13 MR. SIMON: I'll object to that as being  
14 argumentative, calling for a conclusion from an expert  
15 whose credentials have not been established as such, and  
16 being a leading question, and being vague and ambiguous.  
17 Go ahead, sir.

18 THE WITNESS: Would you repeat the question.

19 MR. HOCH: Would you read it back, Jerry.

20 (Record read.)

21 THE WITNESS: I don't remember that it was the first  
22 paper, but I certainly regard his work highly.

23 Q. BY MR. HOCH: So you don't know one way or the  
24 other whether that's correct?

25 A. No.

26 Q. In your opinion as a professional industrial  
27 hygienist, in attempting to keep abreast of current medical  
28 literature, is it your opinion that that paper authored by



1 Dr. Selikoff was the first such study which indicated,  
2 in fact, that insulators are at risk to asbestosis?

3 MR. SIMON: Same objections.

4 THE WITNESS: I don't know.

5 MR. HOCH: Okay.

6 Q. Just one last question. Mr. Hazard, in the  
7 product known as 85 percent magnesia, what was, to  
8 your understanding, the approximate by weight percentage of  
9 asbestos?

10 A. I don't know.

11 Q. Did you know in 1956? Is it something you  
12 forgot or did you know it then?

13 A. Well, I forgot, I'm sure I have.

14 MR. HOCH: Okay. Thank you, sir.

15 THE WITNESS: Okay.

16 MR. SILBERFELD: Anybody else other than Mr. Berry?  
17 You're on.

18 MR. BERRY: You want to do re-cross based upon this  
19 and then we can just take that and dump it in? In other  
20 words, you want to do re-cross based upon the questions so  
21 far. Then I can do my incorporation by reference, and you  
22 can become Stan Levy for re-cross as to mine.

23 MR. SILBERFELD: Let's go off the record a second.

24 (Discussion held off the record.)  
25

26 FURTHER EXAMINATION  
27

28 BY MR. SILBERFELD:

1 Q. Mr. Hazard, Defendant's Exhibit 1 to this  
2 deposition, which is the memo of Mr. Howard to Mr.  
3 White, and the four pages attached thereto, you recall  
4 testifying about that earlier?

5 A. Yes.

6 Q. On page two -- well, withdraw that. What  
7 specifically did you do with regard to the preparation of  
8 that document, or the underlying work that is talked about  
9 in that document, rather?

10 A. I don't know if I could tell you specifically.  
11 I think the first page was probably prepared mostly by  
12 Curt Howard.

13 Q. I think you may have misunderstood my question,  
14 and I may have phrased it badly. What I was interested in  
15 finding out was what you did to gather the supporting  
16 information for what is reported in this memorandum. In  
17 other words, what did you do that gave you the credit on  
18 page one that says you and Dr. Shook spent considerable  
19 time? What did you do, if you remember?

20 A. Well, with Dr. Shook's help, I guess -- and  
21 this is dredging up a memory -- we prepared two, three and  
22 four.

23 Q. Okay. It refers in here to the research findings  
24 of the Saranac laboratory. Since this has a date of  
25 December 9, 1952, by then the final report of the  
26 laboratory was already out on Kaylo.

27 A. Yes.

28 Q. It also talks about experience in the factories.

1 What does that refer to, if you know? Experience in the  
2 factories as being a basis for what he said in here?

3 A. I think it means where that program was at the  
4 Saryville and Berlin plant. The annual physical exam,  
5 the chest x-rays, the examination of the Workman's Comp  
6 aspect, Workers' Comp., the air sampling. I think those --  
7 sick absenteeism records.

8 Q. Now, on page two of this document underlined it  
9 says, "What has Owens-Illinois done to investigate the  
10 health aspects of Kaylo?"

11 A. Where were we?

12 Q. It says, "What has Owens-Illinois done to  
13 investigate the health aspects of Kaylo?" And it lists  
14 three types of investigations that Owens-Illinois has  
15 done. Paragraph C. provides as follows: "Owens-Illinois  
16 has followed closely the experience of people in the field  
17 who cut, fit and handle Kaylo materials. No  
18 complaints have been received from any users reflecting any  
19 health or physical impairment on the part of the people  
20 handling Kaylo material. Good reports have been  
21 received from them comparing the working with and handling  
22 of Kaylo to other materials." Can you tell me what  
23 work was done by you and Dr. Shook to monitor the  
24 experience of people in the field who cut, fit and handled  
25 Kaylo?

26 A. I have to go back a little bit. We had  
27 salesmen or sales engineers visiting customers' plants, or  
28 plants where this product was used, run by our customers,

1 and they were alert to the possibility of this health  
2 aspect. They brought back no reports of any damage or  
3 injury of a health nature. So that we knew that we were  
4 handling a safe product.

5 Q. And these were reports that you got back from  
6 your sales people in 1952 and before?

7 A. Yes.

8 Q. And as of that time, just for frame of  
9 reference purposes, Kaylo had been on the market 10  
10 years or less?

11 A. Yes, I guess.

12 MR. SILBERFELD: Thank you.

13 MR. SIMON: If I might follow up. Are you aware if any  
14 of these sales people had any education in the field of  
15 industrial hygiene or occupational safety?

16 THE WITNESS: I was not aware that they had. However,  
17 when you're talking to workmen, or the supervisor of  
18 workmen, "Have you ever had any complaints about Kaylo?"  
19 "No, none at all." That's pretty good evidence.

20 MR. SIMON: Was that the extent of their examination  
21 as you understood it?

22 THE WITNESS: Yes. They didn't perform any medical  
23 tests.

24 MR. SIMON: No dust samples?

25 THE WITNESS: No dust samples.

26 MR. SIMON: No surveys as we discussed earlier?

27 THE WITNESS: No. But there were no complaints of  
28 difficulties with Kaylo.

1 MR. SIMON: Okay. Thank you, sir.

2 Q. BY MR. SILBERFELD: With regard, Mr. Hazard, to  
3 Defendant's Exhibit 3 to this deposition, which is the  
4 hydrous calcium silicates report that you looked at  
5 earlier, you remember reading from page 22?

6 A. Yes.

7 Q. It says in here, "The hydrous calcium  
8 silicate is harmless and the asbestos," referring to the  
9 asbestos in the dust of Kaylo, correct?

10 A. Yes.

11 Q. "The asbestos manifested the usual effect of  
12 this mineral." By this mineral was meant asbestos,  
13 correct?

14 A. Yes.

15 Q. And the usual effect of this mineral referred  
16 to asbestosis, did it not?

17 A. Yes.

18 Q. In response to questions from Mr. Hoch,  
19 counsel for J-M, you talked about the  
20 Fleischer-Drinker study, do you remember that?

21 A. Yes.

22 Q. Do you recall, of the three cases that were  
23 reported in Fleischer-Drinker as having had  
24 asbestosis, what the shortest exposure, shortest time  
25 from first exposure was?

26 A. Shortest time from first exposure to the  
27 development of asbestosis?

28 Q. Yes, sir.

1 A. No, I don't.

2 Q. You do recall, do you not, that in all three  
3 cases of asbestosis reported in Fleischer-Drinker,  
4 there were substantial periods of time between first  
5 exposure and the onset of symptoms or discovery of the  
6 disease?

7 MR. HOCH: Objection; vague as to substantial; indefinite.

8 THE WITNESS: That was my recollection.

9 Q. BY MR. SILBERFELD: That each of those cases  
10 had latency periods, as we know them now, of over 10 years?

11 A. Yes.

12 Q. Some of them longer than 10 years?

13 A. Yes.

14 Q. And it was found by Fleischer-Drinker that  
15 the TLV, or the concentrations of asbestos in the air  
16 in those workers were below three million particles?

17 A. Yes.

18 Q. Which was within --

19 A. Well, at the time of their study?

20 Q. At that time of their study.

21 A. That's true, at the time of their study.

22 Q. That was below the TLV at the time?

23 A. Un-huh.

24 Q. Yes?

25 A. Yes.

26 Q. Yet, three workers exposed to asbestos  
27 which was within the then accepted TLV came down with  
28 asbestosis, correct?

1 MR. HOCH: That's a mischaracterization of the report,  
2 Roman. What you're saying is that at the time that Dr.  
3 Fliescher and Dr. Drinker were in there taking their  
4 dust studies that was the total exposure for those three  
5 people. And that's a misstatement of the report and it's a  
6 total twisting and confusion of what the report stands for.

7 MR. SELMAN: Furthermore, the report is a written document.  
8 It speaks for itself.

9 MR. HOCH: Right. That's true for everything we've  
10 been saying.

11 Q. BY MR. SILBERFELD: Do you know, Mr. Hazard,  
12 how many workers were studied in Fleischer-Drinker?

13 A. Well, it's my impression there were several  
14 hundred. Maybe over a thousand. I'm not sure.

15 Q. As an industrial hygienist who has had at least  
16 some passing experience with epidemiology, would you  
17 consider three cases out of a thousand to be a significant  
18 incidence of disease?

19 MR. HOCH: Objection, foundation.

20 THE WITNESS: No, I don't think they would be  
21 significant, especially in view of other factors that I  
22 think Fleischer-Drinker pointed out, such as the period  
23 that these men had been working as insulators, which was  
24 long, and their likely prior exposure before the test that  
25 Fleischer-Drinker made.

26 Q. So you would not consider three cases out of a  
27 thousand to be a significant incidence?

28 A. Not with those other aspects.

1 Q. Is there a figure in your mind that you would  
2 consider a significant incidence of disease, say, in a  
3 population of a thousand men exposed to asbestos?

4 MR. SELMAN: Objection. Wasn't that asked and answered?

5 THE WITNESS: No, I have no figure in mind of that  
6 sort.

7 Q. BY MR. SILBERFELD: Do you have an estimate for  
8 us?

9 MR. BERRY: Same objection.

10 MR. KAMALIA: An estimate? I think that is irrelevant.

11 MR. SIMON: He's asking at what levels --

12 MR. KAMALIA: Speculation. I don't think there is  
13 any foundation for him giving that opinion.

14 THE WITNESS: No, I can't say. I don't know.

15 Q. BY MR. SILBERFELD: If hypothetically, Mr.  
16 Hazard, the results of Fleischer-Drinker were that 50  
17 men out of 1,000 had asbestosis, would you consider  
18 that to be a significant incidence of disease based upon  
19 the exposures and the work that those men did?

20 MR. HOCH: Objection.

21 MR. BOGAN: In all fairness, I'm going to object.  
22 Excuse me, Mr. Hazard. If you're asking him to recompute  
23 all the figures and statistics of the report then he ought  
24 to have an opportunity to read the report and render his  
25 opinion. But there is no time frame involved. I don't  
26 know if you're talking about last week or the report itself,  
27 or what context you're talking in. I'll object to it on  
28 that basis.



1 Q. BY MR. SILBERFELD: In the context of the  
2 report, the only factors that I'm changing are instead of  
3 three cases of asbestosis or illness being found, I'm  
4 now just picking the number 50. My question is, out of a  
5 thousand men, if you had an incidence of disease in 50,  
6 would you consider that to be a significant factor?

7 MR. HOCH: Aside from other objections, inasmuch as  
8 that is an hypothetical, it is an incomplete hypothetical  
9 because the witness does not have the work history or  
10 exposure history of the so-called phanthom 50 people;  
11 therefore, it cannot possibly be answered and calls for  
12 speculation.

13 THE WITNESS: I have the same thoughts going through  
14 my mind but this gentleman expressed them better. I would  
15 like to know what the work history of these 50 people were,  
16 what the ages were and so on.

17 MR. SILBERFELD: In that event, I give up. Anybody  
18 else have anything?

19 MR. BERRY: Let me see --

20 MR. BOGAN: Let's go off the record a second.

21 (Discussion held off the record.)  
22

23 EXAMINATION  
24

25 BY MR. BERRY:

26 Q. Mr. Hazard, as you know, my name is Andrew  
27 Berry and I'm appearing today on behalf of  
28 Owens-Illinois. I have at this point only one question.

1           You made reference this morning -- Mr. Silberfeld made  
2 reference this morning to a so-called "warning flag," quote,  
3 close quote, derived from the Saranac animal  
4 experiments. Do you recall this line of questioning?

5           A. Yes.

6           Q. Did you have in mind with respect to that  
7 phrase, plant workers in Berlin and Saryville, or  
8 users and applicators of the product, or what?

9           A. Plant workers in Berlin and Saryville.  
10 We felt that the users of the product had no dangerous  
11 exposure. There was no need to put a warning label on the  
12 package.

13 ~~MR. BERRY: That's all I have at the moment, subject~~  
14 ~~to whatever. Go off the record again.~~

15                     (Discussion held off the record.)

16                     (Recess held.)

17           MR. BERRY: Back on the record. Gentlemen, in the  
18 interest of time and concluding the deposition today,  
19 because we have now exceeded slightly the limits set by the  
20 agreed upon method of proceeding with Mr. Hazard, on behalf  
21 of Gibson, Dunn & Crutcher, as to whom I'm associated  
22 counsel for this deposition, for Owens-Illinois, I would  
23 be willing to stipulate in lieu of conducting an  
24 examination of Mr. Hazard which would necessitate this  
25 deposition being continued to a later date, the portions of  
26 the deposition of Mr. Hazard taken in Massachusetts and  
27 other Northeastern United States cases on February 11,  
28 1981, in Toledo, Ohio, from pages -- the mid-point of

1 page 94 to page 128, the mid-point of page 128, and the  
2 exhibits identified in those pages of the testimony of Mr.  
3 Hazard, I would propose to give to the court reporter the  
4 entire -- a copy of the entire testimony of that deposition,  
5 with all of the exhibits, and I would propose that the  
6 portions I have just described and the exhibits identified  
7 therein be annexed and made a part of this deposition as if  
8 taken herein with references to counsel, if necessary,  
9 being corrected to reflect the counsel appearing here today.

10 MR. SILBERFELD: Further, Mr. Berry, that that  
11 copy of the transcript and the exhibits will be marked as  
12 Defendant's 4 to this deposition.

13 MR. BERRY: Fine. And further, that in addition to  
14 objections other than as to form, which were specifically  
15 preserved in the February -- what we'll call the  
16 February 11th deposition, I would be willing to  
17 stipulate that all objections, including those as to form,  
18 be preserved.

19 I represent to you that Mr. Hazard's testimony  
20 refers to no other companies other than those already  
21 mentioned here today in the categories in which mentioned  
22 here today.

23 MR. SILBERFELD: So stipulated.

24 MR. HOCH: So stipulated.

25 MR. BERRY: If anyone objects, would he, she speak?  
26 No such objection.

27 MR. SILBERFELD: Wait. Now with regard to the  
28 stipulation on -- has Jack left? With regard to the

1 stipulation with Mr. Hazard's transcript, I propose the  
2 same one we followed yesterday.

3 MR. BERRY: All right.

4 MR. SILBERFELD: If we can get him in here to agree  
5 with it, that would be fine.

6 Mr. Callahan, is the stipulation that we had with  
7 regard to Mr. Ames' deposition, the correcting and signing,  
8 acceptable for Mr. Hazard as well?

9 MR. CALLAHAN: Yes.

10 MR. SILBERFELD: Then we also have to make some  
11 arrangement with regard to the speech cards. I would like  
12 to have them marked and attached as exhibits to the  
13 deposition. We have to make some arrangements for copying of  
14 them. What I would propose, since we're all leaving Toledo  
15 today, is that they be entrusted to the court reporter,  
16 that he make copies of them and have them delivered back to  
17 you by Federal Express.

18 MR. CALLAHAN: Let me ask the author here to make  
19 sure everything is all right. He reposses confidence --

20 MR. SILBERFELD: Is that acceptable?

21 MR. CALLAHAN: Yes. You'll have the cards. May I  
22 have your card? I have no --

23 MR. SILBERFELD: One further thing, Mr. Callahan.  
24 That - is, these cards are separately bundled. What I would  
25 propose; although we're not going to mark them now, is that  
26 we mark each bundle as an exhibit, and the subcards as  
27 subparts.

28 MR. CALLAHAN: All right.

1 MR. SILBERFELD: Thank you. That will be entrusted  
2 to the court reporter.

3 (Deposition concluded at 4:00 P.M.)  
4  
5

6 I certify (or declare) under penalty of perjury that the  
7 foregoing is true and correct. Los Angeles, California.  
8 Dated this day of , 1981.  
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12 WALTER HAZARD  
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ERRORSProposed corrections

<u>Page</u>	<u>Line</u>	
21	21	Change: "was" to "were"
22	15	Change: silicate to "silica".
23	2	Change" "Symposium" to "symposiums"
23	3	Delete: "the"
41	9	Delete: "of our batch house"
63	23	Change: "was" to "were"
76	2	Not "seven years" but "nine years"
107	3	Change: "auto" to "bottle"
107	4	Change: "silicate sand, SiO <sub>2</sub> " to "silica sand, SiO <sub>2</sub> "
107	5	Change: "would be" to "were beset"
2	25	Defendat should be Defendant
34	18	Expansing should be Expansion
85	19	Pile should be Pilot
99	19	Change "putting" to "pulling".
102	3	Change "breathe" to "Breathed."
108	19	Delete: "and memogreen"
110	15	Change: "got" to "to have"
112	19	Change: "retaining" to "containing"
113	6	After "those" - add - "particles"

TYPOS (cont.)

117	13	Change: "special" to threshold"
120	11	Add hyphen between "asbestos" and "containing" (to form "asbestos-containing")
122	7	Add after "and": "was" ("and was heated")
138	21	Change: "silicate" to "silica"

  
\_\_\_\_\_  
Willis G. Hazard

taken at the time and place in the foregoing caption specified and was completed without adjournment.

I do further certify that I am not a relative, counsel or attorney of any party, or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Toledo, Ohio, on this \_\_\_\_\_ day of February, 1981.

Dianne Bochi

DIANNE BOCHI,  
Notary Public  
in and for the State of Ohio.

My Commission expires February 25, 1982.

- - -



MR. LEVY: I have no other  
questions.

(Whereupon, the deposition was  
concluded at 5:05 o'clock p.m.)

  
WILLIS HAZARD

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C E R T I F I C A T E

STATE OF OHIO     )  
                          ) SS.  
COUNTY OF LUCAS )

I, Dianne Bochi, a Notary Public in and for  
the State of Ohio, duly commissioned and qualified,  
do hereby certify that the within-named witness,  
WILLIS HAZARD, was by me first duly sworn to tell  
the truth, the whole truth and nothing but the truth  
in the cause aforesaid; that the testimony then given  
by him was by me reduced to stenotype in the presence  
of said witness, afterwards transcribed upon a type-  
writer; and that the foregoing is a true and correct  
transcription of the testimony so given by him as  
aforesaid.

I do further certify that this deposition was